Valedictory Address,

Delivered at the termination of the Seventieth Session of the Army Medical School, Netley,

BY SURGEON-GENERAL SIR JOSEPH FAYRER, K.C.S.I., M.D., F.R.S., Q.H.P.,

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IT is rather more than twenty years since my official relations with the Army Medical School at Netley began, and this is not the first time I have had the honour of addressing the surgeons on probation on an occasion similar to that for which we are now assembled, for I find that on April 1st, 1875, I addressed them at the opening of the school, and on Feb. 3rd, 1879, I had the privilege of presiding at the distribution of prizes. During the intervening period of twenty years I have had the opportunity of watching the progress of the school, have done so with great interest, and have noted with much satisfaction the gradually increasing good influence it has exerted on the medical department and through them the medical services generally. It is a subject for congratulation that the school continues to prosper, despite the vicissitudes and changes it has undergone; its very existence even has been menaced, but happily it has survived these dangers and has so well maintained its prestige and asserted its utility that we may hope that (the need for its existence being so well established) any future changes will be only such as tend to the expansion of the teaching of those subjects especially relating to the duties of the military medical officer which were originally contemplated when it was founded, and which can nowhere be so well taught as they are here. Deeply interested in the service in which my life has been passed, and knowing by experience how valuable is the character of the education and training imparted here, I have always wished to see the teaching of this school extended over a longer period of time and its sphere of utility enlarged, and have hoped that in process of time its benefits might be made available for other medical men destined for a public career in the sanitary and civil medical services of the country, including the colonial, as well as for the officers of the Army and Indian Medical Department. I am much impressed with the belief that such a modification in the present system would be of great benefit alike to the Service and the individual medical officers, for, however perfect may be the scheme of education in the great civil medical schools and universities, however highly specialised may be the teaching of certain subjects in any one of them, that combination of special subjects peculiarly needed in the public medical services, especially in the Army and India together with instruction in military and administrative questions—to say nothing of the advantages of *esprit de corps* acquired by association in a great school before entering the actual service—can never be imparted or acquired as thoroughly elsewhere as it can here. In my humble opinion, the time now allotted for residence at Netley, considering the varied and special nature of the curriculum, is hardly sufficient, and I do not hesitate, therefore, to say that I trust the period of study for probationers may ultimately be extended. Officers having this longer training and special education would be even better qualified than they are at present to meet all emergencies and to carry out the scientific investigations so imperatively demanded in these days, when great problems of etiology as well as of preventive medicine are exciting so much interest and are straining to the utmost the resources of practical scientific research for their elucidation. In this respect this great school is peculiarly well endowed and admirably equipped for the means of such teaching, and the teachers are alike forthcoming; more time only is required to do full justice to both. And here I would, through you, urge on your successors the supreme importance of diligent use of the period of probation here. The time is so short, the subjects are so important, that without close and unremitting work and attention the necessary standard may not be attained and disastrous failure result. This in my experience of Netley is rare, but it *does* occasionally happen, and I would urge you to impress on your friends and successors the importance of bearing it in mind.

When I last addressed the young officers (1879) who had just gained their commissions, I expressed my hope and belief that better prospects were foreshadowed and might be anticipated for the Medical Services. Times had been, and indeed still were, unfavourable, a feeling of disquietude and unrest prevailed, and there was a sense of general dissatisfaction with the existing condition of things. That there was reason for this I think cannot be doubted, nor can I say it is altogether extinct now; but I ventured then to suggest that possibly the difficulties did not all arise from outside, and that to a certain extent, perhaps, the obstacles might be found within the Service itself, and that, if it were so, it behoved the medical officers to see to it that such internal causes should be removed. I reminded the young officers that the social and educational influences of a great institution like Netley are calculated to foster and develop (amongst other things) that *esprit de corps* which so greatly conduces to real stability in any department of the public services. I pointed out also that the position of the military and Indian medical officer offers such advantages as ought to command a supply of the *élite* of our Universities and medical schools. All this I repeat to-day; and I am glad to think that as time advances there has been, on the whole, a favourable change. Many men of high culture are competing for the appointments, but indications are even now not wanting of a doubting confidence, for I am told that the competition is less keen than it has been; still, the general tone and feeling in regard to the Services have improved. Unfavourable conditions have been mitigated if not removed; the importance of the medical officer's work is more appreciated and his true place in the great military organisation better understood, and, as a consequence, more authority is attached to his opinion and more weight to the importance of his duties, which are concerned with not merely sickness and wounds, but the well-being and sanitary condition of those under his care. Until a few years ago the military status of the medical officer was insufficiently defined. It is true he held what was called "relative" or "comparative" rank, but this, however, served but imperfectly to endue him with that authority which is essential to his position as an important and indispensable officer of the Army. It had long been felt that his status required more exact definition, but there were always certain obstacles to this which stood in the way. It was argued, I believe, that however necessary the medical officer might be—and that he is so was not disputed or denied, at all events by reasonable persons—yet that substantive military rank could not appropriately be conferred upon him. This view, it would seem, could only have arisen from a misconception of the true nature of a commission. The idea that the title of Lieutenant, Captain, Major, or Colonel could only be held by that particular branch of the Service whose duty it is to direct the combative energies of the soldier was surely a mistaken one, for it is in the power of the Sovereign to confer such distinction on anyone, and it is conferred on officers of the military service who have no immediate connexion with mere combatant action, as is amply demonstrated by the fact that the officers who control the Commissariat, the Army Service Corps, nay, even the band master, now can and do, hold substantive commissions in one or other of those ranks. If it be considered necessary and possible that these officers should be so commissioned, it is difficult to understand why the same advantages should have been withheld from the medical officers, who, being so closely connected with all that concerns the health, discipline, the well-being and effective condition generally of the Army, need such warrant for their authority as much as do those of any other department. The concessions that have been made doubtless conduce to the interests of the Service by placing the medical officer in a more assured position and by defining more clearly the substantive rank and authority which he holds, though I must confess one has difficulty in appreciating the advantage of such a cumbrous title as that of "Brigade-Surgeon-Lieutenant-Colonel." Time, however, will probably modify such complex designations. Invidious distinctions implied in the terms "combatant" and "non-combatant" can have but little real significance in these days, when the records of almost every action fought or position defended show how equally risks are shared by the medical and the other officers, whilst the number of Victoria Crosses worn by them is a curious comment on the use of the term "non-combatant" (with its present meaning) as applied to the medical officer. But let me repeat what I said on a former occasion, which is that your military rank gives you no title, nor does it call upon you in ordinary cases to assume

the place or duties of the combatant officer, and I hope I need not even hint at the impropriety and bad taste of assuming any position to which your own, as members of a learned profession, should make you indifferent, for, whatever your military rank may be, you are first of all medical men. Still, withal, you are soldiers, and it may happen, as it often has done, that you have in an emergency to take the place of your combatant brethren. Should it fall to your lot to do so you will be prepared to show that you are as ready for this as for any other duty. Two brilliant examples are even now before you in the cases of Surgeon-Major Robertson, who as a political officer contributed to the defence of Chitral, and of Surgeon-Captain Whitchurch, who risked his own life and fought his way through the enemy, carrying and protecting his mortally wounded comrade. Both these officers have recently received recognition of their services. If you confine yourselves, therefore, to your own distinct sphere of duty, which is ample and sufficient, the benefit of your influence will be appreciated; if you overstep it you will be in a false position; your efforts for good will be minimised and your counsels neglected if not ignored. Remember also that though your status in the Service is now—as it should be—assured by your military rank, so much of your influence for good depends upon personal character that you should endeavour to maintain that at the highest standard.

Gentlemen, let me now congratulate you upon the successful termination of your career at Netley, and upon having achieved the great object of your ambition—your commissions in the Service; and especially I would congratulate those of you who have obtained prizes bearing the names of Sidney Herbert, Edmund Parkes, Ronald Martin, and De Chaumont—names that will be honoured and respected wherever they are mentioned and medical science is appreciated. They have conferred lustre on the Service generally and upon this school in particular. They deserve well of their country, and they may rightly be held up to you and other young men as models for imitation. Let these prizes be an inducement to you to endeavour to follow in the steps—long and laborious they may have been—which led to their great distinction, and which will lead you too, perhaps, if you follow in them, to a similar pre-eminence. These prizes should also be an incentive to you to endeavour to maintain and increase the prestige which they now reflect upon you, whilst at the same time they should serve to remind you of the efforts by which that success was obtained and the obligation imposed upon you of continuing to merit it. To those of you—and it is of necessity the majority—who have not been equally successful I would say that you have won one great prize in securing your commission; there are still others to be won in the career before you, and many advantages to be gained, if you will only work perseveringly and seize the opportunities when they present themselves. Both India and the army offer many paths to eminence—India especially does so—and to one or other of these goals you will surely attain, if having determined to do so at the outset you earnestly persevere. It has been said that the public services offer little inducement to exertion; that they present, after all, but a somewhat dull level of monotonous equality; and that talent, energy, zeal, and special devotion to one or other of the branches of science are but of litttle avail and lead to nothing. This is not the case—least of all is it so in India, where many and varied appointments are attainable and await the earnest worker. They are, at least, filled at the present moment by medical officers, and though in this respect, perhaps, India is not so fertile as it may have been in past times, it still offers opportunities of professional and scientific advancement which are excelled by those of no Service in the world. I am afraid I may not hold out to you such prospects of honours and distinctions as fall to the lot of some other departments of the public service, but even in this respect there are signs of improvement, and it is possible that in the future such recognitions as are accorded to military, political, and civil officers of long and distinguished service may fall to your lot likewise. But, after all, when you adopted the profession of medicine as a career you did not contemplate such rewards as the chief object of your ambition. It was rather, I take it, the exercise of a noble profession, the advance of knowledge, the welfare of your fellow-creatures, and the satisfaction of feeling that you aim at the almost god-like power of relieving suffering, saving life, and promoting the sanitary, moral, and material welfare of your fellow subjects that influenced you, and to this you may in a measure certainly attain. Great wealth you will perhaps not acquire, but a competency you may certainly rely on—sufficient, at any rate to relieve you from those carking cares and pecuniary anxieties which so often retard the pursuit of knowledge and the progress of the individual. In most cases you may rightly look forward to being able to provide for your families and, under favourable circumstances, even to acquire a certain amount of wealth. You will, at all events, be able to lead useful and honoured lives, whilst you will acquire "troops of friends," and it may well be that from among you shall arise another Parkes, Falconer, Waring, Hooker, Longmore, Maclean, Aitkin, De Chaumont, or David Smith, or perhaps even a worthy successor to the great biologist and philosopher who has so recently gone to his rest—for Huxley and the men I have mentioned, to whom might be added many others, at least began their lives and laid the foundations of future eminence in one or other of the medical services.

On the last occasion upon which I had the privilege of presiding at a meeting of this kind I had but recently become officially connected with this school as a member of the Senate. The duties were most congenial to me, for I had always taken much interest in the education and training of medical officers. The anticipations that I then formed in reference to the objects and results of this great school have been fully justified; and I now, having ceased to occupy that official position, look back with great pleasure upon the years that have passed in connexion with it, and the regret that I feel on the closing of my official connexion with the school is tempered by the knowledge that my successor, Surgeon-Colonel Hooper, will strive to guard and promote your interests with all the zeal, earnestness, and ability which characterised him in India, and have led him to the position he now occupies. I have watched with keen interest the career of your predecessors on these benches, and have been gratified to learn how thoroughly many of them have done credit to the teaching they have received here; whilst I deeply regret that this almost general rule has not been without exception. The severance of my official relation with the school in no way diminishes the interest I take in it; and I look forward with pleasure to the privilege of being present on such occasions as these, and of still watching its progress and the influence that it will, I hope, continue to exert in elevating the Medical Department and maintaining it in the position it should take amongst the other great public services of this country.

It only remains for me now to impress briefly upon you the importance of the duties that you will be called upon to perform. To those of you who are destined for the military service of this country will be entrusted the care of the health of our soldiers at home and abroad. Upon you it will devolve to advise the authorities upon all sanitary questions and whatever concerns the physical well-being of the army under your care. In the event of war—and who can say how long we may remain at peace?—the treatment of the sick and wounded will be your special care. To you, also, it will fall to investigate the laws that govern the origin and diffusion of epidemic and other forms of disease, and all that concerns the soldier's health. Already, through the influence of your predecessors, the death-rate of our soldiers in India has been reduced within the last fifty years from something like sixty to thirteen per mille, and no doubt this mortality is susceptible of further diminution, whilst side by side with the reduced death-rate will continue an amelioration of the conditions of life generally. Nor will your duties be limited to those of a purely military medical character, for there are some special spheres of action and appointments open to those who may aspire to them. To those of you who are destined for the Indian Medical Service similar but even wider prospects are open, for there your duties will be of a still more varied character. Problems concerning disease, the laws regulating the rise and spread of cholera, fever, and other epidemics—their pathology, etiology, and therapeutics—still need and claim further investigation and research. Or, apart from medicine and hygiene, the whole range of natural science, involving zoology, botany, meteorology, and ethnology, afford matter for investigation and fields for research which are yet comparatively unexplored. Your education and scientific training fit you to take up and deal with these subjects, and I would suggest to you the advantage of doing so—i.e., of having some other occupation than that which is concerned with medicine alone. You have thus before you, to whatever Service you belong, the prospect of an interesting, useful, and profitable career. The measure of your success will be that of your own exertions. If you exercise the ordinary precautions

for preserving health you may have every reason to hope that you will pass through it successfully—and, I trust, satisfactorily—and may return to this country in health and vigour and with large experience with the prospect of doing useful work at home—it may be in this great school. I will not detain you longer than to say that in bidding you farewell I wish you every prosperity and success, and trust that your highest aspirations may be realised.

Address in Physiology

ON

INTERNAL SECRETIONS.

Delivered at the Annual Meeting of the British Medical Association at London, Aug. 2nd, 1895,[1]

By EDWARD A. SCHÄFER, F.R.S.,

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MR. PRESIDENT AND GENTLEMEN,—My definite subject—the subject of internal secretions is one of far-reaching interest, although its full importance has only lately come to be recognised. A secreting organ is one which separates certain materials from the blood and pours them out again, sometimes after effecting change of some sort in them, usually upon external surfaces, or at least upon surfaces which are connected with the exterior. These are the secretions which are most commonly known under that name. On the other hand, some secreted materials are not poured out upon an external surface at all, but are returned to the blood. These may be termed internal secretions, and they may be and are of no less importance than the better known and more fully studied ordinary or external secretions. The name of gland is one which is usually applied to a secreting organ; and to those which have been believed to furnish only internal secretions the name "ductless glands" has been applied. It is not, however, the ductless glands alone which possess the property of furnishing internal secretions, for it is clear, according to our definition, that this will apply to any organ of the body. Every part of the body does, in fact, take up materials from the blood, and does transform these into other materials. Having thus transformed them they are ultimately returned into the circulating fluid, and in that sense every tissue and organ of the body furnishes an internal secretion. Moreover, certain important glands which are provided with ducts possess not only the faculty of yielding an external secretion, but have equally important, if not even more important, functions in connexion with internal secretion. Thus both the liver and the pancreas are as essential to life, by virtue of the internal secretions which they furnish to the blood, as they are by their better known external secretions. The evidence of this is complete. The entire removal of either of these organs causes death, and this is due to the removal of the influence which they exert on the metabolism of the body by the loss of their internal secretions, not necessarily to the loss of their external secretions; for in the case of the liver it is well known that the bile may be diverted by a fistulous opening without any serious interference with the vital functions, and the same is the case for pancreatic juice. The kidney is another instance. It might, indeed, at first appear that a similar statement will not apply so well here; but it has been shown by the researches of Dr. Rose Bradford that the kidney is not a real exception to the rule laid down, for enough of the kidney substance may be left to carry on the excretory products of the body, and yet the removal of the remainder of the organ may cause such disorganisation of the nitrogenous metabolism of the body as to lead speedily to wasting and death.

The same result is not obtained with all glands. The salivary glands may be entirely removed without any marked symptom supervening. And this is also well known to be the case with the mammary glands. On the other hand, removal of the generative glands leads to marked alterations in the development of other parts of the body. In the last-mentioned case the changes are without doubt produced through the nervous system, and are not connected with the internal secretion of the glands; and with respect to the salivary and mammary glands we may assume that, although they yield an internal secretion of some sort to the blood, it is of the same nature as that yielded by other organs, and that such other organs may act vicariously for those removed. This is, however, inapplicable to the liver, the kidney, or the pancreas; removal of which or restriction of their internal secretions is inevitably followed by a fatal result.

I do not propose to dwell further upon the internal secretions of the liver and kidney, and for contrary reasons—namely, that in the one case the subject has become too large for the limits of a short address; and in the other because the subject is one with regard to which we have at present too little information. But before leaving the liver I would point out that it affords an excellent illustration of the fact that internal secretions may, like ordinary or external secretions, either serve some useful purposes in the body, or may be formed only to be got rid of (excretions). The formation of glycogen and sugar is an example of a useful internal secretion—that of urea—of what would be termed in the ordinary sense an excretion, although it is not actually got rid of by the liver, but is produced by that organ only to be got rid of by the kidney. The internal secretion of the pancreas may detain us somewhat longer. Among the racemose secreting glands the pancreas offers a peculiarity of structure which in the first instance it may be well to note. For we meet here, besides the secreting alveoli and ducts, a peculiar epithelium-like tissue which occurs in isolated patches throughout the organ and which is characterised by its extreme vascularity. These islands of epitheloid tissue are quite characteristic of pancreas. We know of no other externally secreting gland which contains them.

Now it was formerly believed that the sole function of the pancreas was to yield pancreatic juice, and this, it must be confessed, is in itself a sufficiently important function, seeing that this fluid contains ferments which act on all the principal organic constituents of the food. Before 1889 it had indeed been remarked that cases of glycosuria occurring in the human subject were frequently associated with disease of some kind of the pancreas. Frerichs found that 20 per cent. of the total number of cases of diabetes which came under his notice were accompanied by obvious changes in the pancreas. This observation led to experimental inquiry. Claude Bernard had long previously attempted to entirely remove the pancreas, but all his attempts were unsuccessful, in so far that the animals speedily succumbed. In 1889, however, the operation was successfully performed by Von Mering and Minkowski. They found that all cases in which the entire pancreas was removed the operation was followed within the space of a very few hours by the appearance of sugar in the urine, and this to a great extent—as much as 5 to 10 per cent. being found even in fasting animals. Accompanying the condition of glycosuria there is also produced polyuria; and these conditions occur even under a purely flesh diet, and are accompanied, as might be supposed, by a rapid wasting, and followed within the space of fifteen days or less by death. This result is not due to the loss of the pancreatic secretion, for, as we have already seen, the pancreatic juice may be diverted by a fistula, and the animal may remain in perfect health. Nor is it due to the loss of the secreting structure; for it has been found possible to destroy the secreting structure of the organ without the supervention of diabetes. This was done successfully by Schiff in 1872. Schiff's method, which was a repetition of experiments by Bernhard, was the injection of paraffin into the duct of Wirsung. In Bernhard's original experiments all the dogs operated on speedily died; but this was probably due to accidental causes, and not to the actual destruction of the pancreatic tissue; for in Schiff's experiments the dogs survived and remained in perfect health. The fact that removal of the pancreas is followed by glycosuria was not at that time known, and the appearance of sugar in the urine was not therefore looked for by Schiff. But there can be no doubt of the absence of any severe form of diabetes, because the animals underwent no wasting.

Quite recently the experiment has been repeated by Thiroloix, who found that, although the gland was reduced by the process of atrophy supervening on the injection to a mere rudiment, symptoms of diabetes do not occur as when the whole gland is removed. It is now well known that if a

[1] Professor Schäfer intended to illustrate his address by lantern slides, but the hall being unsuitable for this he gave his audience a good idea of his meaning by tracing the curves with his finger.

portion of the pancreas be left, about a quarter or rather more, no glycosuria appears. In the great majority of cases the animals remain healthy; so that it is clear that a portion only of the gland can prevent the diabetic symptoms. Nor need the portion of gland which is left remain in its ordinary situation. It or a portion of the gland from another animal may, in fact, be grafted either elsewhere into the peritoneal cavity or under the skin. Provided the grafting be successful, and the portion of the gland employed of sufficient size, removal of the pancreas is now no longer followed by the usual symptoms. The animal may remain, in fact, in perfect health. But, if at any subsequent time the grafted portion of pancreas is removed, diabetes supervenes, and the animal dies within a short time, as after a primary removal. Now it has been shown by Thiroloix that the grafting of a portion of pancreas, the secreting part of which had been destroyed by injection of paraffin along the ducts, is also efficacious in preventing the advent of diabetes after removal of the pancreas. We must therefore assume that the material, whatever it may be, which is furnished by the pancreas to the blood, and which prevents excessive formation of sugar in the blood and in the urine, must be formed by some other constituents of the gland than the secreting cells; for there is every reason to believe that these cells are eventually completely destroyed after the ducts have been blocked in the manner described.

[Professor Schäfer here considered the various theories which have been put forward as to the functions of the pancreas as an internally secreting organ, and went on to say:]

The only fact that appears certain in connexion with the manner in which the pancreas prevents excessive production of sugar within the body is that this effect must be produced by the formation of some material, secreted internally by the gland and probably by the interstitial vascular islets, and that this internally secreted material profoundly modifies the carbohydrate metabolism of the tissues.

The next internal secretion which I propose to consider is that of the thyroid gland. The process of study is in one sense simpler in this case, since there is no external secretion. That the thyroid gland is a secreting gland no one who studies its structure and its mode of development can well doubt: except that it is unprovided in the adult state with a duct it has all the features of structure of secreting glands. It is formed of alveoli which are lined by epithelial cells, and these cells have been observed to exhibit changes after treatment with pilocarpin in no way dissimilar to those changes which have been noticed under like circumstances in the cells of true secreting glands. Further, we can observe the secreted material within the vesicles of the thyroid in the form of the substance known as "colloid."

[Professor Schäfer then gave a *résumé* of the physiological investigations on the thyroid gland and an account of the symptoms which follow thyroidectomy. He continued:]

Various theories have been advanced to account for the effects of removal of the gland. H. Munk holds, or until lately held, that the effects of removal are entirely due to interference with adjoining nervous structures in the neck. But this, as in the similar theory propounded to account for the effects of extirpation of the pancreas, is absolutely negatived by the results of thyroid grafting. Besides this theory, which must, it seems to me, at once be dismissed, there are two others which may be regarded as disputing the ground between them. Of these the one may be called the theory of "autotoxication" and the other that of "internal secretion." The autotoxication theory assumes that there is a certain toxic substance which is constantly tending to accumulate in the blood, and which it is the duty of the thyroid gland to render innocuous and to remove. According to this, the function of the thyroid would be primarily excretory. This view is supposed to be supported by the statement that in animals which are dying after removal of the thyroid the blood is toxic for other animals, and especially for those which have already had the thyroid removed, although only a short time previously, and before the symptoms of thyroidectomy have had time to develop. It is not stated what the probable nature of this substance is, or by what tissues it may be formed. The "internal secretion" theory would explain the phenomena of extirpation as due to the absence of a secretion which is formed within the thyroid, and which is passed into the blood, possibly through the medium of the lymphatics: a secretion which is necessary for certain of the metabolic processes within the body, and especially for those connected with the nutrition of the central nervous system and of the connective tissues. For, in the first place, beneficial and not toxic effects follow the exhibition of thyroid juice both in cases of thyroidectomy in animals and in myxœdema and other affections in man; and, secondly, if we investigate the physiological effects of extract of thyroid gland, whether prepared with water or glycerine, and whether previously boiled or not, we find that it produces a distinct action upon the bloodvessels, so that the blood pressure markedly falls although the beats of the heart remain at about the same rate and of the same strength. This lowering of the blood pressure without influencing the action of the heart can only be produced in one way—namely, by increasing the calibre of the arteries. Before this effect upon the blood pressure was discovered it had been shown by Dr. George Oliver that the exhibition of thyroid juice or other preparations of thyroid in the human subject has a tendency to increase the calibre of the radial artery. It would seem, therefore, that the juice of the thyroid and extracts which are obtained from the gland have a distinct physiological effect upon the vascular system. In connexion with this it is of interest to recall the observations of Lorrain Smith upon the effects of thyroidectomy in altering the gaseous exchanges—that is to say, the oxidations within the bodies of animals. Lorrain Smith found that in animals which have been deprived of the thyroid body the reaction to changes of temperature was abnormally rapid. When normal animals are exposed to a cold atmosphere the production of carbonic acid becomes increased consistently with the increased oxidation which we know to occur, but this increase of production of carbonic acid does not take place immediately, but only comes on after a certain period of time, the temperature of the body being in the meantime maintained normal by those physical changes which occur in the circulation, and which allow the quantity of blood brought to the skin, and the amount of heat thereby lost from the general surface of the body, to be varied. Now it is precisely these vaso-motor changes which appear to be lacking after removal of the thyroid; for the production of carbonic acid becomes almost immediately increased by exposing the thyroidectomied animals to a low temperature. That the thyroid gland yields an internal secretion which effects a useful purpose within the body appears to result conclusively from these facts, and the effects which follow thyroidectomy are probably due to the loss of that secretion. Whether the gland also possesses the function of destroying toxic products of metabolism which would otherwise tend to accumulate in the blood is a point which requires the production of more conclusive evidence before it can be regarded as established.

[Professor Schäfer next considered the pituitary body, quoting experiments which went to show that this gland supplied an internal secretion which caused contraction of the heart's arteries. He proceeded:]

Lastly, I propose to ask you to consider the internal secretion of the supra-renal bodies. The immense importance of these glands in nutrition was indicated by Addison, who, in 1855, pointed out that the symptoms of the disease now known by his name are associated with pathological alterations of the supra-renal capsules.

[Here Professor Schäfer referred to the symptoms of Addison's disease, as well as to the experiments of Brown-Séquard and other observers. He then continued:]

Experiments upon normal animals with extracts of supra-renal have been performed by a number of observers, but by all in a very incomplete manner. For the most part they have been satisfied to subcutaneously inject extracts made with water and other menstrua, and to observe the symptoms, if any, which result. As a matter of fact, in some animals which are so treated there are no obvious symptoms. The guinea-pig will stand a large subcutaneous dose of supra-renal extract without showing any symptoms at all, or with, perhaps, only a slight acceleration and increase of the force of the pulse. The same appears to be the case with the cat and with the dog, unless a very large dose be injected. Rabbits, on the other hand, are extremely susceptible to the influence of supra-renal extracts. If a large dose be given the animal may succumb within half an hour. If, on the other hand, the dose be only moderate in quantity, it may not show any symptoms at all for some hours, and then it may suddenly succumb. This primary absence of symptoms has been especially noted by Foà and Pellacani, who state that in many of the dogs which they experimented upon in this way there were no symptoms at all apparent on the day on which the injection was given, but that the next

morning the animal was usually found dead. The cause of death, it may be added, in this case is not by any means clear. Foà and Pellacani have supposed that it may be due to paralysis of the respiratory centre, but the slight effect which intravenous injection of supra-renal extract produces upon this centre does not lend support to this conjecture.

We may next proceed to consider the physiological effects of intravenous injection of supra-renal extract. The facts which I am about to put before you are new; they are the result of experiments by Oliver and myself, which have been carried on in my laboratory during the last two years.[2] They show conclusively that the medulla of the supra-renal capsule contains a dialysable organic principle, soluble in water, and not destroyed by boiling for a short time, which produces a powerful physiological action upon the muscular system in general, but especially upon the skeletal muscles, the muscular walls of the bloodvessels, and the muscular wall of the heart. A certain amount of action is also manifested upon some of the nerve centres in the bulb, especially the cardio-inhibitory centre, and to a small extent upon the respiratory centre.

The effect upon the skeletal muscles is well shown in the frog, but can also be seen in mammals. The contraction of a muscle in response to a single excitation of its nerve is as ready as in the normal animal; but it is greatly prolonged, so that the result is comparable to that produced by a small dose of veratria, which, as is well known, has the effect of enormously increasing the contraction resulting from a single stimulation of the muscle or its nerve. It is in no way comparable to a curare effect, for the muscles remain as excitable through their nerves as before. It is therefore an effect entirely different from the so-called autotoxication paralysis which is stated to result after removal of the supra-renal capsules in animals, and the material which is extracted by water, therefore, from the supra-renal capsules is certainly not the same material that is said to accumulate in the blood after the removal of those organs. The action upon the circulatory system may be divided into the action upon the heart and the action upon the arterial system. Upon the heart the effect differs according as the vagi are cut or uncut. When the vagi are uncut, and the heart is therefore still in connexion with the cardio-inhibitory centre in the medulla oblongata, the action of supra-renal extract is to slow, and even to entirely stop, the contraction of the auricle. Under the circumstances the ventricle continues beating with an independent slow rhythm. The result is to cause the pulse to be very slow. On the other hand, when the vagi are cut or their cardiac ends paralysed by atropine the effect upon the heart is precisely the reverse. The strength and frequency of the auricular contractions are markedly increased, and those of the ventricle are correspondingly augmented. This naturally has the effect of sending a vastly greater amount of blood into the arteries, which by itself would alone produce a great rise in the arterial pressure. The direct action upon the arteries is, however, quite as marked as that upon the heart. If the blood pressure be taken in a dog in the usual way by connecting a mercurial manometer with the femoral artery, and if a minute dose of supra-renal extract be now injected into a vein, it is found that even with the vagi uncut and the heart therefore slowed by the action of the extract the blood pressure rises considerably. But with the vagi cut or paralysed by atropine the rise can only be characterised as enormous. The contraction of the arteries is further exemplified by the fact that if an organ, such as a limb, or the kidney, or the spleen, be enclosed within a plethysmograph the instrument indicates an enormous diminution in volume of the organ, which can only be accounted for by a contraction of its arterioles.[3] This contraction is produced by the direct action of the drug upon the muscular tissue of the smaller arteries and not indirectly through the vaso-motor centre, for it obtains in the mammal equally well with the spinal cord cut or the bulb destroyed, or even in the case of the arm after the brachial plexus has been severed. In the frog it is produced also with the brain and spinal cord completely destroyed and salt solution containing supra-renal extract allowed to flow through the arteries.

Under these circumstances the flow of fluid, which without the supra-renal extract may have been comparatively rapid, becomes almost completely stopped, and this can only be due to the direct action of the extractive substance upon the muscular tissue of the smaller arteries. The enormous rise of blood pressure which is got after the vagi have been cut is shown in the tracings. The pressure may rise to four or five times its original height; I know, in fact, of no other agent which will produce such an enormous increase of pressure except direct stimulation of the vaso-motor centre. It is not the case, however, that this centre is stimulated by the drug, as has been erroneously supposed by Cybulsky, for, as we have seen, the action is essentially a peripheral one. The effect passes off in the course of a few minutes. After a dose, no matter whether small or large, has been injected into a vein and has produced the results which we have seen the bloodvessels slowly resume their ordinary calibre, the augmentation and increased frequency of the heart's beats become gradually lessened and the blood pressure recovers its normal condition. Whilst the pressure is raised under the action of the supra-renal, there is apparently no possibility of inhibiting the arterial contraction; even the strongest stimulation of the depressor nerve, which under ordinary circumstances produces through the vaso-motor centre a marked dilatation of the arterioles, is without result during the activity of this extract. The question naturally arises, How is it that the effect so soon disappears? In what manner is the active principle eliminated? It is not eliminated by the kidneys, for the effect passes off just as quickly, even although the renal arteries are clamped. It is not eliminated by the supra-renals themselves, for the same fact holds good for the supra-renals. It passes off almost equally quickly if the aorta and vena cava are tied in the upper part of the abdomen, so that there is no circulation of blood whatever in the abdominal organs. It is not oxidised or otherwise destroyed by the blood, for it retains its full potency even after it has been twenty-four hours in contact with that fluid. The most probable explanation of the disappearance of the effect seems to be that the active principle becomes packed away and eventually rendered innocuous in certain organs. That the muscles take most part in this storage is probable from the fact that the physiological effects upon the skeletal muscles are manifested for a long time after the effects upon the heart and arteries have disappeared. One of the most interesting and important facts regarding the material which is yielded by the supra-renals is the minuteness of the dose which is necessary to produce these results. As little as 0·0055 g. (5½ milligrammes) of dried supra-renal is sufficient to obtain a maximal effect upon the heart and arteries in a dog weighing 10 kilogrammes. For each kilogramme of a body weight, therefore, all that is necessary to produce a maximal effect is 0·00055 g. (little more than half a milligramme).

Now we have shown that the active principle is contained only in the medulla of the gland, not in the cortex, and the medulla in all probability does not form more than one-fourth of the capsule by weight. Of the dried medulla certainly not than nine-tenths is composed of proteid and other material which is not dialysable, and which otherwise does not conform to the chemical properties which have been ascertained to belong to the active substance; so that, if we take all these facts into consideration, we find that, in order to produce the maximal effect, a dose of not more than fourteenth-millionths of a gramme per kilogramme of body weight is all that is necessary. Now it is certainly true to say that one-fourteenth of this dose will produce some effect, although not perhaps a very large one. We thus arrive at the fact that this material given in the proportion of not more than one-millionth part of a gramme per kilogramme of body weight, which would be equivalent to $\frac{1}{13000}$ gr. (less than $\frac{1}{200}$ gr.) for adult man, is still sufficient to produce very distinct physiological results.

It may well be that the supra-renal capsule is continually passing into the blood this active material, which, although present in minute quantities, may be supposed to produce an effect which is beneficial for the performance of the functions of muscular tissue, and especially the muscular tissue of the vascular system. It has, in fact, been stated by Cybulsky that the blood of the supra-renal vein contains a sufficient amount of the active principle of supra-renal extract to produce marked physiological effects. I have made three very careful experiments in an endeavour to confirm this statement, but I have not been able to find that the blood of the supra-renal vein does actually contain a sufficient amount of this material to produce, even in doses of as much as 10 c.cm., any more result than venous blood generally. But, whether

[2] The chemical work in connexion with these experiments has been carried out by Mr. B. Moore.

[3] In man the effect of taking supra-renal extract by the mouth is to produce a general diminution in calibre of the arteries as measured by the arteriometer.—Oliver.

we are able to show it experimentally or not, there is, I suppose, very little doubt of the fact that the materials formed pass somehow or other into blood; and, when we compare these results of supra-renal injection with the converse effects obtained from the removal of supra-renals and from disease of supra-renals, we can come to no other conclusion than that we have before us a well-marked instance of an internal secretion. The general results to which we are led from a consideration of these facts, and others to which I have had no time so much as to allude, point strongly in favour of a theory of internal secretions, and it is obvious that such internal secretions may be of no less importance than the better recognised functions of the external secreting glands. These internal secretions have to be definitely reckoned with by the physician, while at the same time the therapeutist will be able to avail himself of the active principles which they contain, and in certain cases to use extracts of internally secreting glands in place of the hitherto more commonly employed vegetable medicaments. That the subject has a vast future there can be no doubt, for, in spite of the advances which have been made in elucidating it during the last few years, a great number of points still remain obscure. Nevertheless, the way which the physiologist has attempted to show may be followed by the practitioner, and the result of these physiological experiments may now be utilised for the diagnosis and treatment of disease.

ON THE PREVENTION OF PHTHISIS.

By JAMES NIVEN, M.B. CANTAB.,
MEDICAL OFFICER OF HEALTH TO THE CITY OF MANCHESTER.

IN the issue of *Public Health* for December, 1894, is a paper read by Dr. Henry Armstrong before the North-Western Branch of Medical Officers of Health on the above subject, in which he does me the honour to quote my name in connexion with preventive measures. He does not, however, agree with the summary of measures which he ascribes to me as being those on which I should rely. This summary reads thus: (1) notification (compulsory) as in fevers; (2) isolation (with legal procedure for breach of law, as in fevers) &c.; (3) disinfection; and (4) diseased meat (destruction of). Now in the issue for April, 1893, of the same publication I have clearly set out the lines of preventive action on which I should go, and these I will repeat as a basis of comment; but before doing so I should like to say that, no doubt unconsciously, Dr. Armstrong has quite misunderstood my position. I have never proposed isolation with legal procedure for breach of law as in fevers, nor have I thought of such a proceeding. On the contrary, I am under the impression that an isolation hospital would be regarded as a boon by many families one of whose inmates was phthisical, and that there would be no need of compulsion, which I quite agree with Dr. Armstrong in regarding as impracticable. Then, again, I consider the destruction of tuberculous meat as by no means so important as many other precautions, although, of course, not a thing to be neglected. In the paper in question I do not think that I have even mentioned diseased meat. That subject was raised by Dr. Armstrong himself at the same meeting of the Society of Medical Officers of Health at which I gave the paper alluded to, and I there mentioned that the North-Western Branch of the Society had passed a resolution that the carcase of an animal should be condemned if any tuberculosis was found in it; but of the proposals which I put forward it formed no part. Then, again, disinfection of rooms should be carried out, if possible; but this, again, is not part of the main front of my position. In fact, the proposals put forward to be condemned are, in part, not my proposals at all, and, where they are, they are not in their proper position of importance. Further, at the meeting in question I was present as a representative of the North-Western Branch to make proposals in regard to the infective element in tuberculosis. The various adjuvants in the establishment of infection, such as bad housing and bad personal habits, were necessarily, from want of time, put aside for the time being. In the causation of phthisis two factors are concerned—the conveyance of infection and those conditions of the system which favour the lodgment and growth of the tuberculous infection. The second factor plays a much more important *rôle* in the origin of phthisis than it does in many other diseases. It is, however, a *rôle* much more difficult to survey and discern than the more immediate part played by the transference of infective material, and it is also a *rôle* much more difficult to prevent. So far as it is preventable with special reference to tuberculosis, it would be prevented in the course of the measures adopted to intercept the conveyance of the tuberculous infection. For purposes of simplicity of treatment and clearness it is made incidental to the study of the direct transmission of tuberculous infection.

The main positions which it is necessary to bear in mind in planning out measures of prevention against the spread of tuberculosis are these:—1. Without the importation of the tubercle bacillus or its spores into the system tuberculosis cannot arise. 2. Phthisical people, especially in the later stages of the disease, discharge enormous quantities of tubercle bacilli and spores in their sputum. These are probably innocuous till dried. When dried and dispersed as dust this sputum is capable of lighting up tuberculosis. Schill and Fischer's investigations showed the prolonged vitality of tuberculous spores in sputum, and Cornet's researches established that the dust taken from a room in which a phthisical person was being treated was liable to convey the disease to guinea-pigs when taken from places which the sputum could not have directly reached. He found, also, that where the sputum had been carefully destroyed, such dust was not capable of reproducing the disease in guinea pigs. Moreover, the dust of streets, even where phthisical persons were known to spit, did not produce the disease in guinea-pigs. 3. Cornet's research on the mortality of Catholic nurses in Germany showed that intimate exposure to tubuculous dust of healthy individuals was followed by an enormous mortality, the period between exposure to this influence and death being between two and three years. Two years previously, in my report on the health of Oldham for 1891, I had given an account of a number of instances in which people who had died from phthisis had been intimately exposed to infection at a varying period before death, and arrived at the conclusion that the average latent period between exposure to infection and death was probably between two and three years. Again, in the report for 1890 I gave an account (which was reproduced in *The Practitioner*) of a series of 100 deaths from tuberculosis into which I had instituted an etiological inquiry. In more than half of these cases intimate exposure to infection was ascertained at a period which could be regarded as the starting point of the infection, and these comprised practically all the cases in which there was not some condition of health strongly predisposing to successful invasion by a comparatively small amount of infectious material. Dr. Heron, in his work on the Communicability of Consumption, gives a very interesting series of cases, collected by Professor Koch, of exposure to infection followed by tuberculosis. Perhaps the most striking of these clinical experiences are those in which exposure of a wound to tuberculous material has been followed by local tuberculosis, subsequently extending to the lungs. 4. Other tuberculous discharges besides sputum contain the infective matter, and are in like manner, though to a less degree, dangerous. 5. The infective matters from phthisical patients are capable of destruction by chemical agents and are easily destroyed by steam. In the shape of pure cultivations, and therefore as dust, they are readily destroyed by direct sunlight. This is a fact of cardinal importance. 6. Tuberculosis is widely distributed amongst the mammalia and is especially destructive to milch cows. In particular it has been shown experimentally that the milk of tuberculous cows is capable of lighting up the disease in guinea-pigs, especially if the udders are affected by the disease. There is, moreover, good reason on other grounds for believing that the milk from tuberculous cows is responsible for much of the tuberculous disease of children. So far as tuberculous meat is concerned, the grounds for believing it to be a source of abdominal tuberculosis are mainly experimental. 7. Phthisis is not rare amongst country people, and it is unfortunately only too common amongst milch cows. It was suggested to me by my friend Dr. Robertson of Oldham that the cycle was completed, so far as pulmonary phthisis is concerned, by the cows swallowing the tuberculous matter discharged from the lungs, which subsequently was voided by the cows undestroyed. Anyone acquainted with the condition of cowsheds in this country will at once perceive how very likely it is that phthisis is handed on in

this manner. The absence of light and ventilation, the frequent presence of tuberculous cows in the sheds, and the dusty condition of many of them, give to this suggestion a capital importance.

The proposals which I put before the society were based on these and kindred considerations. They were:

1. The memorandum of the North-Western Branch of the Society of Officers of Health or some equivalent form should be placed by sanitary authorities in the hands of all medical men, and as far as possible in the hands of all phthisical patients—"It would be well, also, to issue a brief handbill to every house, at all events in towns, giving simple directions as to the most important precautions. This was done in Oldham in 1887, 1888, and 1892." Last year a handbill, of which the following is a copy, was sent to every house in the city of Manchester:—

PRECAUTIONS AGAINST THE COMMUNICATION OF CONSUMPTION.

1. Consumption is an infectious disease likely to be communicated more particularly in damp, badly ventilated, and badly lighted houses and workshops.
2. It is usually communicated by the matters coughed up by consumptive people, which get dried and dispersed as dust, thus reaching the lungs of those susceptible to the disease.
3. Such matters should, therefore, never be allowed to get dry. For that reason they should not be spat on the floors of a house, but either into pieces of rag or paper, which should be at once burned, or into a hand-vessel containing water. This vessel should be emptied into the drains outside the house once a day, and then scalded and recharged with water.
4. Everyone affected with a chronic cough should take the same precautions as a consumptive person.
5. The same precautions should be observed in a workshop as at home.
6. Consumptive people should not spit into a pocket handkerchief, as both the handkerchief and their clothes are thus made infectious.
7. No one should spit on the ground inside any building or in a public conveyance.
8. The bowel discharges of consumptive people should be disinfected by being passed into a 15 per cent. solution of carbolic acid or simply into water, and the vessel, when emptied, should be at once scalded. Soiled clothing should be at once removed, disinfected, and afterwards boiled.
9. When it is settled that anyone is consumptive the house should be thoroughly disinfected, and the patient should be thenceforward confined to certain parts of the house. On a request made in writing to the Health Office disinfection will be carried out by the department free of charge.
10. The rooms occupied by a consumptive person should be kept well ventilated and well lighted. This will greatly aid in destroying the infection.
11. No one is more liable to inhale the dust from matters coughed up than the consumptive himself. The removal of infectious matter is, therefore, calculated to promote his recovery. Moreover, if these precautions are strictly carried out he need not be a source of danger to anyone.
12. It is the duty of the attendant to see that the above precautions in regard to the phlegm and discharges are observed, and also to see that every obstacle to sufficient lighting and ventilation is removed.
13. In case of death the house will be disinfected by the sanitary authority, if this is desired. A new tenant should not enter a house previously occupied by a consumptive person until such house has been thoroughly disinfected.
14. Amongst the agencies which act powerfully in causing consumption are damp dwellings and workshops, overcrowding, defective ventilation, occupations which involve the inhaling of irritating dust, and alcoholic excess. These should be avoided.
15. The milk from consumptive cows is very dangerous, especially to children. All milk should be boiled before use. As many animals suffer from consumption all meat should be thoroughly cooked.

JAMES NIVEN, Medical Officer of Health.
Public Health Office, Town-hall, Manchester, May 28th, 1894.

An admirable handbill has also been distributed by Mr. Vacher, medical officer of health to the county of Chester. The memorandum of the North-Western Branch was drafted by Mr. Paget, medical officer of health for Salford, in 1892, following on papers given by Dr. Ransome and myself to the branch in that year. It is admirably drawn and very well adapted for its object, which was rather to convey full information to phthisical families, and to serve as a basis for the medical attendant to give instructions upon, but is, I think, too detailed for a handbill to be generally distributed. To this general education of the public I attach the very utmost importance. If the public mind is not diligently and adequately prepared by the diffusion of information on the subject it is too much to expect that public bodies will be roused to take the necessary action, or that the general public will support them, or the officers whose duty it may be to carry out their instructions. Moreover, without any further proceeding whatever an immense impetus is thus given to the carrying out of precautionary measures. I have been assured that in Oldham it had become a very common practice to carry out preventive measures.

2. Tuberculosis should be made a notifiable disease—notifiable under the same Acts and under similar conditions to such diseases as scarlet fever. The inclusion of tuberculosis amongst notifiable diseases could be effected under Clause 7 of the Infectious Diseases Notification Act, 1889. What, then, are the reasons for proposing such a step? In the first place, whatever the concomitant conditions, tuberculosis is an infectious disease, the modes of propagation of which we know with great definiteness. It is especially in the later stages of the disease that the largest amounts of infectious material are being discharged from the system, and notification would, therefore, be valuable at any period of the disease. It is, moreover, especially in the later stages when phthisical patients require nursing and constant attention, and when through weakness their personal habits are liable to become most negligent that those in contact with them are exposed to the greatest amount of risk. I would propose at first to exclude from notification cases of closed glandular, bone, and joint affections, and only to deal with such cases as from the presence of discharges, whether from the lungs, mouth, skin, or bowels, are manifestly liable to convey the disease. I do not agree with Dr. Armstrong that the expense of such notification would be enormous, and I have given figures[1] to show that such would not be the case. If these data are regarded as unreliable, or if more satisfactory figures can be produced, it would be well to have them. One objection to notification it would be necessary to deal with—viz., the difficulty entailed by phthisical patients changing their medical attendant, as they frequently do. It is, in my opinion, indispensable, whether notification is to be—at first—compulsory or voluntary, that the usual fee of 2*s.* 6*d.* a case should be paid. To prevent, therefore, undue expense each patient reported would be furnished with a card bearing the date of notification of his case, which he would be required to produce on application for disinfectants, &c. Medical men would be requested to ascertain whether their patients had been previously notified, and not to notify a case a second time except on change of address. Even if such a precaution was not carried out I do not see that the expense would be such as to be a bar to notification. What are the objects to be gained by notification? In the first place the precautionary measures to be taken by the phthisical individual or his attendant would be prescribed and carried out. In the second place the conditions of the house favouring the spread of the disease would be ascertained and as far as possible removed. The conditions of work of other inmates of the household favouring the disease would be ascertained and as far as possible guarded against. Disinfection of the rooms occupied by the patient would be effected. The dangers of exposure of members of the family suffering from any condition of lowered vitality would be pointed out.

The circumstances attending the commencement of the disease would be investigated, and doubtless in this way considerable light would be thrown on its food relations. But, above all, the insanitary conditions which have been shown to bear such an intimate relation to phthisis, and which play a far more important part in the production of that malady than in any other infectious disease, would be investigated and removed precisely at the time when they were most dangerous both to the patient and to the other members of the family. On Oct. 24th and Nov. 7th, 1893, the subject was discussed by the Medical Society of Oldham. It was found that considerable hesitation existed with reference to the notification of tuberculosis, and that more particularly apprehensions were entertained that the sanitary officials would interfere between the medical attendant and his patients. No objections, however, were offered to a paper of instructions as to personal precautions being handed in by the sanitary inspector on which the medical attendant could enlarge. After full debate the members of the society agreed in recommending the voluntary notification of phthisis. It may be as well to recall the general position arrived at on that occasion, since it is, so far as I know, the only expression of opinion formulated by a body of general practitioners. The following notice of the meeting was given in THE LANCET of Nov. 18th, 1893:—

"OLDHAM MEDICAL SOCIETY.—On Oct. 24th a discussion on the subject of Notification of Phthisis was opened by Mr. Fawsitt, President of the Society, at a very full meeting. Several members took part in the discussion, and at the close of the meeting the subject was adjourned to another meeting, which was held on Nov. 7th. A number of speakers having expressed their views on the question, it was understood that

[1] Public Health, April, 1893.

the objects of notification would be: 1. The sanitary authority would disinfect the room occupied by the tuberculous patient, as might be required. 2. Inasmuch as the transmission of tuberculosis is in a large proportion of cases determined by the presence of insanitary conditions, such as damp, overcrowding, deficiency of light, and so forth, an opportunity would be afforded to the authority of removing such conditions and so saving other members of the household. 3. Further evidence would be collected bearing on the modes and conditions of transmission of the disease. 4. The personal hygiene of the patient would in no way come under the care of the sanitary authority; it was hoped, however, that the medical attendant would confer with the medical officer of health, when convenient, as to the precise means by which tuberculous discharges might be most usefully destroyed. At the same time the sanitary department would in no way interfere with the treatment of the patient, and all instructions in dealing with discharges from the patient would come from the medical attendant. 5. Only such cases would be reported as were taking place from the lungs, cases with tuberculous diarrhœa, and cases with copious discharge from tuberculous bones and tuberculous ulcers. These and other matters having been fully discussed, the following resolution was carried unanimously: 'That the society, having had its attention drawn to the infection of tuberculous diseases and to the great mortality and injury to the population arising therefrom, is of opinion that these diseases should be the subject of voluntary notification to the sanitary authority.' It was understood that a copy of the resolution would be sent to the sanitary committee of Oldham as well as to the medical journals."

Providing the fee of 2*s.* 6*d.* can be paid for each case reported, I do not object to voluntary notification being first tried, as it will give time practically to ascertain and deal with the difficulties of administration. At the same time it seems to me quite clear that, the connexion between insanitary conditions and the communication of phthisis being so close as it is, this alone would be a sufficient argument for compulsory notification, putting aside the other powerful reasons for it. Nor do I doubt that voluntary notification would speedily result in compulsory notification.

3. My third proposition was that Isolation Hospitals should be provided by sanitary authorities, jointly or separately, at the expense of the rates, for the isolation of cases of tuberculosis likely to cause infection. As it is, workhouse hospitals do at present provide a considerable amount of isolation for the very poor. But there are a vast number of artizan families which would decline to avail themselves of that refuge, and where the patient is a danger and a burden. I feel quite sure from the conversations I have had in the course of my inquiries that the provision of good hospital isolation would be hailed as a blessing by these poor struggling people, and it would be the means of removing infection from the home. Not only so, but those treated in the hospital for a time would be thoroughly indoctrinated with the measures of precaution taken, which would become part of their daily habit. They would therefore, on their return, be centres for the diffusion of knowledge on the subject. It is in the later stages of the disease that infection is most likely to occur and that the disease is most burdensome. This is precisely the stage which is not dealt with in convalescent homes, and which should be dealt with in the interests of public health. This proposal is, however, not necessary to the success of the first two.

4. Tuberculosis in cattle should be brought under the Contagious Diseases (Animals) Acts, and special veterinary inspectors should be appointed by sanitary authorities, singly or jointly, to carry out the objects of the Acts in relation to tuberculosis and other diseases, and to attend to the general sanitary arrangements of the cowsheds. I may be allowed to quote the continuation: "The officer to be appointed should be a young veterinary surgeon, well versed in the diagnosis of disease. He should receive a sufficient salary and travelling expenses. His duties should be something like the following. Once a month he should inspect the farm-buildings and note any conditions found on these or on the farms likely to act injuriously on the health of the cattle or on the quality of the milk. He should examine the cattle and ascertain whether they were suffering from any disease. If he saw reason to suspect tuberculosis he should take measures to have the suspected animal isolated, and see that necessary measures of disinfection were carried out. The sale of milk from this animal would be stopped. If his diagnosis was clear and unhesitating the cow should be killed. Compensation should be given, the amount paid to have regard to the condition of the animal. In advanced tuberculosis it would be trifling—in an early stage of the disease such as would not entail any loss to the farmer. It would thus be to the farmer's interest to have such cases reported as soon as possible. Notification would be compulsory on the farmer. Constant practice in diagnosis would soon enable a good veterinary surgeon to have an almost instinctive knowledge of what he was dealing with, unless in very obscure cases. It is so in human diseases. The veterinary surgeon would also deal with the sanitary requirements of the cowsheds. Ordinary insanitary conditions about farms would be attended to by the inspector. I throw out these details merely by way of showing that the veterinary inspector would have enough to do. Having made his investigations, the veterinary inspector would report to the medical officer of health of the district, so that he might be able to coöperate with the veterinary inspector in getting the necessary preventive measures carried out."

I have already mentioned how in all probability tuberculosis is directly communicated in cowsheds from tuberculous cows. But, apart altogether from tuberculosis, the condition of our cowsheds and their relation to the public health through the milk supply demand investigation and rearrangement. It would be of great advantage if the regulations applicable to cowsheds were made uniform, so that any local action taken to improve their condition should not have the effect of transferring the milk-supply to another district perhaps as badly off in the matter of cowsheds as that in which the action was taken.

Oldham.

PERFORATION OF UTERUS BY SOUND OR CURETTE.

BY LAWSON TAIT, F.R.C.S.ENG.,

CONSULTING SURGEON TO THE HOSPITALS FOR WOMEN AT BIRMINGHAM, NOTTINGHAM, AND SOUTHAMPTON.

THE article by my friend, Dr. Auvard, in the *Archives de Tocologie et de Gynécologie*, noted in THE LANCET of Sept. 22nd, 1894, has been lying for months on my desk waiting the leisure the holiday season has given me that I might draw further attention to an interesting occurrence, long ago familiar, but apparently forgotten. When Simpson made the uterine sound practicable, he put it in the hands of every one, and its routine use did a great deal of mischief. Now it is relegated to its proper position, and used only in a very limited area of special practice. We do not, therefore, see now the cases of perforation of the uterus by the sound which were so familiar to Simpson's pupils and followers. In the columns of THE LANCET[1] I recorded my own first experience of it, stating at the same time the fact that it was well known to Simpson, whom I had often seen demonstrate it. Next month[2] Mr. Walter Whitehead recorded a case as having happened to Foltz and Petrequin, and narrated by the former before the Lyons Medical Society, where a female catheter, used for the purpose of inducing premature labour, passed through the fundus and was extracted through the umbilicus eighteen weeks after without any bad symptoms. Mr. Whitehead also mentions a fatal case in the experience of a friend. It would be a valuable contribution to the literature of the subject to have an account of this case, as it is the only disaster of the kind I have ever heard of amongst a number of perforations which I have seen and heard of, so great that I should be afraid even to attempt to guess at the total. It must be strictly borne in mind that all the cases of which I speak occurred in the non-pregnant uterus.

Dupuy collected seventeen cases,[3] in none of which did any subsequent evil effects arise. Commenting on this paper Dr. W. S. Playfair said that it was probable that in many of these cases the sound passed through the Fallopian tubes. This point used to be one of periodic discussion between the late Dr. Matthews Duncan and myself, and I can accept the view shared by him and Dr. Playfair still less now than in the time of those discussions. It is fashionable now to talk of passing sounds and catheters through the Fallopian tubes (and ureters). I have tried on the cadaver, but (though fairly nimble with my fingers) I have never succeeded, and I have never seen anyone else succeed, though I am far from saying that such passage is an impossibility. Again, I have seen as many pathological

[1] THE LANCET, April 29th, 1871.
[2] THE LANCET, May 13th, 1871.
[3] Progrès Médical, 1877.

tubes as I suppose any other living person, but I never saw a tube in which abnormal patency was a feature. I certainly never saw a normal Fallopian tube—I mean one not distinctly pathological—through which an ordinary uterine sound could be passed. But I have seen several uteri through which sounds could easily have been passed by reason of the thinning of the wall at the outward curve of a chronic flexion, or by the atrophy of the wall at the insertion of a small nodule of myoma. I have also seen two uteri through which the sound or curette actually had been passed, one at the time of an ovariotomy,[4] and the other recently in a uterus I removed by vaginal hysterectomy. I have also recorded three cases of what appeared to be cases of permanent metro-peritoneal fistula.[5] One of these cases possesses the fistula still, as I know the patient is alive, and I passed a sound at the old spot about three years ago. In making these observations we never sterilised the sounds, and now it amazes me, if peritonitis is caused by micro-organisms, why we never produced it.

The last case of instrumental perforation of the uterus with which I have met is one of great interest, for the patient had had her appendages removed for myoma some five years before by Mr. Knowsley Thornton with a brilliantly successful result—that is, all the symptoms and troubles due to the myoma disappeared, and she went through a brief and satisfactory climacteric. When I examined her I could find no trace of myoma. The patient had an idea at the time of this operation that the uterus itself ought to have been removed, but of this I was finally able to dispossess her, for it seemed to be an ideal case for removal of the appendages, and the result all that could be wished. I mention this circumstance because she was placed under my care by a well-known Midland practitioner, whose name I do not give because with it the name of the patient might just as well be published. The reason of her coming to me was that for about eight months she had been troubled by an increasing purulent and very acrid discharge pouring out of the uterus. This discharge was extremely offensive, accompanied by pain and interrupted occasionally by hæmorrhages. It made her extremely miserable, and brought back to her mind somewhat bitterly her original desire to have the uterus removed and Mr. Thornton's refusal to comply with it. The remedy I suggested was, of course, the curette, though not without fear that the disease might be endometric ulcerative epithelioma (a very rare condition), and in consequence this might prove insufficient. Just as I had nearly completed the operation the curette went through the anterior wall of the uterus and I could feel its point easily through the abdominal wall. As usual, the accident did no harm; the patient recovered easily and for nine months remained quite well. She came back, however, later with all her symptoms renewed, indeed intensified, and begged me to remove the uterus. I was not much in favour of this proceeding, as I was by this time quite certain that the correct diagnosis was that of epithelioma, and I am not at all favourable to operations for cancer of any kind—I am quite sure that vaginal hysterectomy for *real* cancer of the uterus will soon go out of fashion. I removed the uterus in this case, however, under the belief that if such a thing were justifiable at all in cancer it was in the rare endometric ulcerative epithelioma which is very like the epithelioma of the lip.

The operation was very difficult, on account of old adhesions, but it was through in about twenty minutes, and then I found a few nodules of myoma at the fundus of a perfectly senile uterus. They were not larger than marbles, and must have been the mere survivals of Mr. Thornton's tumour, as they were wholly unrecognisable before the excision of the uterus. On slitting up the organ I found no trace of epithelioma, but a merely rough and hypertrophied endometrium, quite tough and very vascular. At the base of one of the nodules on the anterior wall, where it was of almost paper thickness, was an unclosed rent, about half an inch across, which had been made by my curette, and the edges of which, but not its lower end, had healed. Here at last was the absolute proof of a permanent metro-peritoneal fistula, through which I have no doubt much of the discharge must have made its way, after its re-establishment, but there was no disturbance from the microbes.

Birmingham.

[4] Diseases of the Ovary, 4th edition, p. 201. 1883. Cornish Bros.
[5] THE LANCET, May 18th and Oct. 19th, 1872.

CASE OF FŒTAL ENDOCARDITIS ASSOCIATED WITH AN ARREST OF DEVELOPMENT OF THE INTER-VENTRICULAR SEPTUM.[1]

BY T. C. RAILTON, M.D. LOND.,
PHYSICIAN TO THE MANCHESTER CLINICAL HOSPITAL.

A CHILD aged four years was admitted into the Manchester Clinical Hospital on Jan. 24th, 1895, suffering from broncho-pneumonia. His previous history was to the effect that he had always been a delicate child, did not walk until he was eighteen months old, and subsequently was unable to play about like other children, being easily exhausted and out of breath. He had frequently complained of pain in the region of the heart, but had not suffered from articular rheumatism or shown any blueness in the lips or fingers. Three weeks before his admission he caught cold and had gradually got worse, and when admitted he had well-marked symptoms of broncho-pneumonia, his respiration being 60, pulse 140, and temperature 101° F. The deep cardiac dulness extended upwards as high as the second rib, on the right side nearly to the nipple line, and the apex beat was in the sixth interspace outside the left nipple line. There was no murmur audible. The patient became steadily worse, the temperature continued to rise, at one time reaching as high as 106·2°, and he died twenty-seven days after admission. Four days previous to his death a systolic murmur was audible over the right ventricle for the first time.

At the post-mortem examination both lower lobes were found consolidated, sinking in water, while islets of broncho-pneumonia were scattered over the rest of the lungs. The pericardium contained about two drachms of clear fluid. The heart was very large, mainly upon the right side. The thickness of the wall of the right ventricle was eight millimetres, of the auricle one millimetre. The corresponding measurements of the left side were nine millimetres and one millimetre respectively. The tricuspid valve was the seat of large verrucose vegetations covered with a deposit of fibrin. Close to the tricuspid orifice were a few other vegetations on the auricular edge and one recent irregular ulcer. The remaining orifices and valves were normal, and the ductus arteriosus and foramen ovale were closed. There was a deficiency of the septum of the ventricles about the undefended space large enough to admit a quill. This opening was larger at the side of the left ventricle than on the right side, where it ended between the insertion of two cusps of the tricuspid valve nearer to the right auricle than to the ventricle. The edges of this orifice were quite smooth. It was evident that the lesion of the tricuspid valve had started during fœtal life, and it seemed almost equally clear that the endocarditis had also continued its evolution subsequently to birth. A similar case has been reported by Dr. F. Robinson.[2] A child eighteen months old had suffered from palpitation and dyspnœa since birth. He was not cyanosed. There was a loud sawing murmur accompanying the heart's action. At the necropsy the right ventricle was found to be large enough to contain a hen's egg, and the tricuspid valve was thickened at its free border to such an extent as to prevent its perfect closure. There was also a circular orifice almost as large as the little finger in the septum of the ventricles communicating between the two cavities. The foramen ovale was closed and there were no remains of the ductus arteriosus.

Although the valvular disease of my own case was due to endocarditis, the opening in the septum can hardly be ascribed to the same cause. The edges were smooth and bore no trace of inflammation, and, in fact, the opening exactly resembled those cases of defective development in which there is no evidence of endocarditis in any part of the heart. The question naturally arises as to the possible connexion, if any, between the arrest of development and the endocarditis in this and Dr. Robinson's case. I am inclined to believe that in my own case the defect in the septum may have been the

[1] Communication made to the Pathological Society of Manchester, April 10th, 1895.
[2] THE LANCET, July 22nd, 1848.

cause of the endocarditis. It is evident from the formation of the opening in the septum that the stream of blood would pour during systole from the left side to the right, and it is conceivable that the impact upon the tricuspid valve may thus have given rise to the endocarditis. It would be difficult to ascribe the arrest of development in the septum to the endocarditis and subsequent incompetence of the tricuspid valve, as that theory would entail our dating back the endocarditis to a period anterior to the third month of fœtal life; and moreover, had increased pressure within the right ventricle prevented the completion of the septum, one would naturally look for the opening to be larger upon the right side than upon the left.

Manchester.

SOME REMARKS ON TYPHOID FEVER MADE AT A CLINICAL DEMONSTRATION IN THE WARDS OF THE ROYAL BERKSHIRE HOSPITAL, READING.[1]

BY FRANCIS HAWKINS, M.B. EDIN.,
PHYSICIAN TO THE HOSPITAL.

THE patient was a man twenty-seven years of age who had been a scavenger. When admitted to hospital on June 11th he said that he had had slight diarrhœa on the first day of the month, but continued at his work until the fifth, when he had a shivering fit, and owing to the diarrhœa increasing took to bed. When I saw the case on the eleventh day, shortly after his admission, the house physician took from my dictation the following notes: "The patient complains of frontal headache and diarrhœa. He lies on his back. The face is markedly flushed and his pupils are dilated; his tongue is beefy red, moist towards the edges, but dry at the centre. The abdomen is tumid, tympanitic over all regions, but markedly so over the colon. Two circular pink spots, slightly raised from the surface and disappearing on pressure, are seen in the left umbilical region. The spleen is enlarged upwards, the lower border not being felt; the liver is not enlarged; the heart is normal. There are a few sibilant râles at the base of both lungs. There is no albumen in the specimen of urine examined; the temperature is 102° F." Since admission there have been several successive crops of spots. The temperature has, with one exception, not been above 102°. The bowels, however, have been frequently and profusely active. In addition to this, on the sixteenth day at 4.30 A.M. about one pint of blood, dark in colour and somewhat clotty, was passed, and a similar quantity again at 7.30 A.M. There was no sign whatever of collapse (the temperature, however, which had previously risen a few degrees, fell from 102·6 to 99·2). I wish to refer in this place parenthetically to the occurrence of typhoid fever at various periods of life. While it is most common during the second and third decades, yet it is very prevalent during the first, but it is not by any means common before the second year of life. I have myself never met with a case in a patient under two years and a half old, but Meigs and Pepper record a case as young as one year and six months. In the cases from which my own investigations have been made not one was under two years. Henoch in 256 cases also found none under two years. This fever may in exceptional instances be met with at an advanced age. One case recorded within my knowledge occurred between the ages of seventy and eighty—the exact age was seventy-six. The most advanced age of which I find an account was a case mentioned by Griesinger as having been observed by Hammernyk when the patient was ninety years of age.

[Dr. Hawkins here quoted statistics showing that typhoid fever is most prevalent during the months of August, September, October, November, December, and least prevalent during April, May, June, and July. He proceeded:]

The eruption in this case appeared first on the day of admission. I have it from the previous medical attendant that none was to be seen on the day before admission, but on the day of admission—the eleventh day of illness—two spots were seen. The typical typhoid eruption is not present in every case; it is, however, more frequently present than absent. As regards adults, it is more frequently present in the male than in the female, being seldom absent in the male. In children it is less frequently present than in the adult. In male children it is almost as frequently absent as present, but in females it is more frequently present than absent.

The date of the appearance of the eruption is worthy of notice. In this case it appeared on the eleventh day. Murchison tells us that the spots appear between the seventh and twelfth days inclusive. In an investigation made by him it was so in 39 out of 46 cases; in 4 only were the spots seen before the sixth day, and that was on the fifth; and in 3 cases the spots were not seen till the fourteenth, and in one case not till the twentieth day. Murchison, however, made no distinction between the date of appearance of the eruption in children and in adults, and as this line of inquiry seems to be of interest and importance I will give some of the results of my investigation. I find that the eruption may appear earlier in children than in adults; thus in the former (of 78 cases) the eruption appeared on the third day in 1 case and on the fourth day in 3 cases. In the latter (adults) in 69 cases the eruption did not appear in one single instance before the fifth day. In 2 cases which I have lately seen the eruption did not appear till the eighteenth day.

The situation of the eruption is almost universally on the abdomen. Among 56 cases where its distribution was particularly noted, in one case only was the eruption absent from the abdomen, and in that instance it was on the chest and back. It is, however, to be remembered that while the eruption is so constantly present on the abdomen it may appear in other parts as well. Thus it may be on the back, chest, between the thighs, on the knees, shoulders, elbows, forearm, neck, and face. It may be very profuse or very scanty. Shortly before leaving London I saw in consultation a case in which the eruption was so general and so widely distributed that the practitioner in attendance thought it of an influenza type. There are other conditions of the skin which must be mentioned, for in addition to sweating and the presence of sudamina there may be erythema, eczema (which is perhaps the least common of any one case out of 240 presenting this condition), urticaria, herpes facialis, and labialis. Abscesses also appear as alveolar, parotid, or on the hips. It must, however, be mentioned that with the exception of erythema the majority of the above-mentioned are met with as sequelæ. And this reminds me of one case I saw while resident physician in the Royal Infirmary at Edinburgh, in which, during convalescence, an abscess formed at the ankle joint, and the os calcis was found to be so much necrosed that the foot was amputated. Previously to the fever no sign of any such condition was present. Boils also may appear: in the experience of some they are of frequent occurrence. The eruption of measles, as also the rash of scarlet fever, may arise during the course of the disease. Desquamation of the skin apart from this cause may also be met with. It was noticed in 11 out of 240 cases, the earliest appearance being on the twentieth day and the latest the thirty-eighth. "Purpura may occur," Fagge says, "in typhoid cases with hæmorrhage from the bowels"; but in 61 cases of hæmorrhage from the bowels (representing a ten years' experience at the Middlesex Hospital) purpura did not occur in one single case. Purpura rheumatica claims two instances. One, a man aged twenty-two years, who had previously suffered from rheumatic fever and hæmoptysis, and in whom a cardiac bruit was present, had on his admission both legs from the knees downward studded with minute petechiæ, and on both ankles and on the dorsum of each foot large hæmorrhagic plaques. For some time the case was regarded as one of peliosis rheumatica. On the sixteenth day typical typhoid spots appeared, and on the twenty-second and twenty-fifth days crops of spots appeared "which became petechial." The other case was a man fifty-two years of age who had petechiæ over the ankles. Both cases recovered. I call special attention to the expression "became petechial," because Murchison says: "When petechiæ occur they are not developed in the centre of the ventricular spots, but are independent." The above case was not seen by myself; it is recorded in the published reports of the Middlesex Hospital, and was noted by such a competent observer as Dr. J. J. Pringle, who was registrar at the time.

[1] I must publicly tender my thanks to the staff of the Middlesex Hospital for their kindness in having placed at my disposal the notes on cases of typhoid fever for the past ten years, whence all my facts not otherwise stated have been drawn.

[Dr. Hawkins here referred further to the comparative rarity of purpura in typhoid fever. He continued:]

I now come to the condition of the bowels and the frequency of the stools. This is one of the difficulties with which we have most to contend. The notes of the case mentioned the presence of tympanitis over the regions of the colon, indicating distension of that part of the bowel. Now in several other cases in which I have detected this condition, which is nearly always associated with profuse diarrhœa, extensive ulceration of the colon has been found at the necropsy. Diarrhœa is the rule in typhoid fever, constipation the exception; but it must also be remembered that there may be diarrhœa for a few days—say, the first five or six—followed for one or two weeks by the most obstinate constipation, demanding enemata for its relief. This latter condition is much more common than constipation throughout. The bowels may be moved from twice to twelve or more times in the twenty-four hours. In addition to frequency of the stools we have here had to contend with hæmorrhage from the bowels, and this symptom demands more than passing attention. Graves was the first to teach that hæmorrhage from the bowels in typhoid fever might be a favourable symptom rather than an unfavourable—he regarded it "as a wise provision of nature which might usher in a favourable crisis, but as an occasional result it was of great danger." Trousseau for some time held that it was a formidable symptom and increased the danger, but after reading Graves' lectures he changed his opinion and stated "that as a symptom intestinal hæmorrhage did not possess the dangerous character imputed to it, but that it was usually of a favourable augury." Sir William Jenner writes: "Hæmorrhage from the bowels is a very grave symptom, but it is by no means necessarily fatal." And Sir William Broadbent, writing in Quain's Dictionary of Medicine, tells us that, while intestinal hæmorrhage is a symptom which causes anxiety, it is by no means necessarily fatal. Murchison regarded it as a very formidable symptom, but Habershon wrote: "It is in my experience rarely fatal." Some time ago I made an investigation relative to this important symptom with the object of finding some basis for forecasting the issue of cases associated with it. A glance at this tabular statement will show that up to the age of twenty more cases recover than die, and that between twenty and twenty-five nearly as many cases die as recover, but that between twenty-five and thirty more recover than die. After the age of thirty more die than recover. We have, therefore, so far as age is concerned, some data for making a prognosis, for, speaking broadly, one may say that up to the age of twenty the symptom is less indicative of danger than it is after that age. In non-fatal cases hæmorrhage usually occurs but once—that is to say, only at one period is blood seen in the stools, and it may vary from a few streaks to one pint. A single hæmorrhage occurred in seventeen out of twenty-eight non-fatal cases. Hæmorrhages in fatal cases are more frequently recurring. Of twenty-four fatal cases there were but three instances of a "single occurrence"; but when these recurrent hæmorrhages are fatal we have no data to guide us, for in both fatal and non-fatal cases the recurrences may be equal in number and frequency. Hæmorrhage associated with perforation is always fatal, and is more frequently recurrent. When a hæmorrhage of the single type has occurred comparatively early in the course of the fever, and for a while the patient seems to have passed the danger point, hæmorrhage of the recurrent type may occur later, from which the patient dies. With regard to the time of the occurrence of the hæmorrhage there is practically no difference. I must lay stress upon this, for many persons think that hæmorrhage early in the course of the fever is not fatal. So far as my own observations go, data of this kind are not reliable, neither does the quantity of the blood passed help much in guiding our judgment, for in non-fatal as well as in fatal cases the quantity may be large or small, and we must further remember that, while the quantity passed by the bowel may be small, a large quantity may remain in the intestine.

Tabular Statement of Ages at which Hæmorrhage from the Bowels occurred in Typhoid Fever, showing the Ages of Non-fatal and Fatal Cases.

Years of age.	Total number of cases.	Non-fatal cases.	Fatal cases.
At and under 5 years of age ...	0	0	0
„ 10 „ ...	1	1	0
„ 15 „ ...	8	7	1
„ 20 „ ...	11	8	3
„ 25 „ ...	15	8	7
„ 30 „ ...	9	7	2
„ 35 „ ...	9	3	6
„ 40 „ ...	2	0	2
„ 45 „ ...	3	1	2
„ 50 „ ...	2	0	2
„ 55 „ ...	1	1	0
„ 60 „ ...	0	0	0
Total	61	36	25
		61	

I must be brief as to treatment. The patient was at first put on a purely milk diet, but shortly afterwards he vomited curdled milk, and in the stools there was also undigested milk. This form of diet was therefore stopped, broths being given, and during the time of the hæmorrhage raw meat juice. Milk, if a patient can digest it, is by far the best diet, yet it should not be unduly pushed when, as in this case, there is evidence that it does not agree. In fact, it may do harm not only by causing sickness, but also by increasing the diarrhœa. For checking activity of the bowels I prescribed bismuth and compound powder of ipecacuanha. However, I am bound to admit it has not answered my expectations. Starch and opium enemata were then ordered, but as this did not check the activity of the bowels I ordered opium by the mouth in addition; by this combination I succeeded in diminishing the frequency of the stools. During the attack of hæmorrhage, in addition to slightly increasing the dose of opium an icebag was placed over the abdomen, and more especially over the right iliac region, suspended from a cradle so as to touch the abdomen lightly and to be removed at intervals. The hæmorrhage eventually ceased. In some instances the cold pack is of great use, but in this case the temperature had never been higher than 102° and therefore in my opinion did not require any special treatment. Stimulants were not administered at first, but a few days after admission the pulse became not only irregular, but also intermittent, and brandy was therefore given. So soon as the desired result was obtained it was stopped, but latterly it has been given regularly because there are indications of cardiac failure.

Reading.

A CASE OF TETANUS TREATED WITH TETANO-ANTITOXIN, AND A REVIEW OF THIRTY-EIGHT OTHERS.

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I HAVE to thank Mr. Weston, senior surgeon to the institution, for permission to publish the following case.

On Nov. 10th, 1894, a man aged twenty-eight was admitted to the Staffordshire General Infirmary with a compound fracture of the first phalanx of the left thumb, and complaining of slight stiffness of the masseter muscles. The injury to the thumb, which was slight, had been received ten days previously and had been medically treated from the first. The stiffness of the jaws had only commenced on the morning of his admission. The patient was a strong, healthy man. His pulse and temperature were normal. There was slight stiffness of the jaws. The wound, which was small, did not look healthy. He was put on five grains of quinine every four hours and a quarter of a grain of extract of physostigmine hypodermically every six hours. On the 13th his condition remained practically the same; the pulse was normal and the temperature never exceeded 99·4° F. He could open his mouth about half an inch. As the wound still looked unhealthy the thumb was removed. On the 14th, on account of the cardiac

depression that the physostigmine was supposed to be causing, chloral and bromide of potassium were substituted. On the 15th physostigmine was recommenced. During the last three days the condition had remained unchanged, with the exception that there had been very slight twitchings of the muscles of the left arm and the side occasionally, and the stiffness had extended to the muscles of the neck. On the 16th the physostigmine was stopped. The pulse was normal and the temperature had been subnormal from the 13th up to this date. At 11 A.M. there was a slight spasm, which was principally confined to the diaphragm and the muscles of the larynx, and only slightly affected the muscles of the legs and back; at 12.30 thirty-four grains of tetano-antitoxin were injected, to the strength of one grain to eleven minims of water; this was injected at two points in each extremity without an anæsthetic, the needle and syringe having been previously sterilised. At 8.30 P.M. the temperature was 101·6° and the pulse 132. The patient seemed better; the cervical muscles were less hard, and he could open his mouth wider and put his tongue out slightly. Antitoxin (thirty-four grains) was re-injected. From the 16th until the termination of the case the pulse, which had previously been normal, rose, and oscillated between 116 and 152. On the 17th the temperature was 98·4° and the pulse 120. There was a rather severe paroxysm of convulsions threatening asphyxia by spasm of the glottis. At 8 P.M. there had been no recurrence of the spasms. The patient was more cheerful, the muscles of the neck were softer, and he could open his mouth better. Antitoxin (twenty-eight grains) was injected. On the 18th, as the spasms were much better and the muscles softer, it was decided to reduce the dose of antitoxin. Injections of the latter (eight grains) were given at noon and at 8.30 P.M. On the 19th the temperature was 98·2° and the pulse 120. There had only been two slight spasms during the last twenty-four hours. He was much better in himself and expressed a strong desire for a pipe. Antitoxin injections (eight grains) were given at noon and at 8.30 P.M. On the 20th the patient felt better and looked bright. Antitoxin (eight grains) was injected at 8 A.M. The temperature rose to 103°; there were no spasms. On the 21st, as the spasms had ceased and the muscles of mastication were more relaxed, the antitoxin was discontinued and five grains of quinine three times daily were ordered. The temperature in the evening was 103°. On the 22nd the temperature was still 103° in the evening; the patient was rather restless, but quieted down on being given bromide of potassium. On the 23rd the temperature was still 103°. The patient did not know anybody, tossed about, and was delirious. There were symptoms of commencing endocarditis. On the 24th he was better; there was no delirium, but the temperature was still 103°. He was now in a typhoid condition. On the 25th the temperature was 104·2° and the pulse 128. He was sinking. On the 26th the temperature was persistently high. The heart was very weak and the pulse running. He was ordered tincture of digitalis and carbonate of ammonia. At 11 P.M. there were gasping respirations. He died on the 27th.

Remarks.—No necropsy was allowed. During the whole time he took his nourishment well, which consisted of a liberal allowance of milk, eggs, meat essence, and brandy in addition to tonic drug treatment. All the injections were given without an anæsthetic for the following reason. On giving the anæsthetic (ether) for the removal of the thumb the patient after a few inhalations became blue and ceased to breathe; prompt measures for resuscitation were employed, and he subsequently recommenced breathing. The probable explanation is that the tongue lolled back over the larynx, as the heart continued to beat although the breathing had ceased; the rigidity of the jaws prevented the mouth being opened. I mention this circumstance, as the injections are recommended to be given under an anæsthetic, and it is a condition that is not unlikely to happen again, and, may be, with a less favourable result. As many recorders of such cases note, it is impossible to draw reliable deductions from an isolated case, and I would make the same observation regarding this one. As the cases in which this new treatment has been tried are relatively few, I think it equally important that the unsuccessful as well as the successful ones should be reported. Taking this case alone, I should be inclined to draw many unfavourable deductions. It was undoubtedly a case of a very mild type. There appears to be no doubt that the antitoxin injections did have a marked beneficial effect on the rigidity and general condition; this appeared a few hours after the first injection, and, so far as the spasms and rigidity were concerned, the benefit was permanent. There is one point I wish to draw particular attention to—viz., that in the opinion of the surgical staff the man died from septicæmia. The thumb was removed soon after his admission; although not healing by first intention, it took on a healthier tone, and never at any time subsequent was the appearance such as would account for the septicæmic condition. Every possible antiseptic precaution was taken; the hypodermic needles, &c., were carefully sterilised by boiling, and for a considerable time the hand was kept in a carbolic bath. The inference naturally arises, Did the septicæmia, if such he died from, have any connexion with the antitoxin injections? Upon this point it is impossible to speak positively; not a single recorder hints at such a source of death after injection. Against this supposition it is only right to mention that, with the exception of a slight temporary elevation after the first injection, the temperature remained normal for five days, during which time two injections were given daily. In spite of the unfavourable termination, and bearing in mind that it is only a single case, that a condition arose that has not been noted by any other observer, that it is possible it may have had no connexion with the antitoxin, and that apparently brilliant results have arisen in the practice of independent and unbiased observers, I should be very loth to condemn the treatment for one unfavourable termination.

I may say I have collected all the procurable published and unpublished cases of tetanus treated by antitoxin up to the present time, numbering thirty-eight, which show the following results. But I would point out that, in reviewing the mortality statistics in this disease, there appears to be some considerable difference of opinion, this arising in a great measure from some writers describing the disease as occurring both as an acute and chronic affection, whilst others seldom or never recognise it as occurring in a chronic state. The following analysis gives the number of recoveries and deaths of the cases treated with antitoxin:—

—	Recoveries.	Deaths.
Total number of cases collected, 38, including cases that are only mentioned as having been treated, no further particulars being given	25	13
Number of cases treated of which particulars are given, 22	17	5
Number of cases treated, of which particulars are given and which were regarded by their recorders as "severe," 9	5	4
Ditto, "not severe," 13	12	1

I think the average mortality of tetanus in chronic cases may be regarded as 50 per cent., and in acute or severe cases as 90 per cent. I have arranged in the four following groups all the recorded cases of treatment of tetanus by immunised serum. Of the 38 cases collected, only 22 were fully reported; they fall under their respective heads as follows: (1) Cases in which the symptoms commenced to abate immediately after injection and then steadily disappeared, 9; (2) those which remained *in statu quo* for a short time after injection and then gradually improved, 6; (3) those in which no further muscles became involved in spasms after commencement of treatment, though occasionally an aggravation of certain other symptoms (as trismus and difficulty in swallowing) occurred, 2; and (4) those ending fatally notwithstanding treatment, 5. Space does not permit of a detailed notice of the cases, but in spite of the unfavourable result of the case treated in the Staffordshire General Infirmary I have come to the following conclusion. In my mind there is no doubt that the antitoxic serum has a favourable effect in certain cases of tetanus, and those not always of the mildest form. This serum may be justly called a remedy for the disease of such importance that up to the present time no other method of treatment can bear comparison with it. I am of opinion that the antitoxin serum is destined considerably to decrease the mortality in tetanic cases, and I do not doubt—although there is probably much to be learned and many details have to be modified or altered—that the hopes raised by it will be fulfilled.

Eastgate, Stafford.

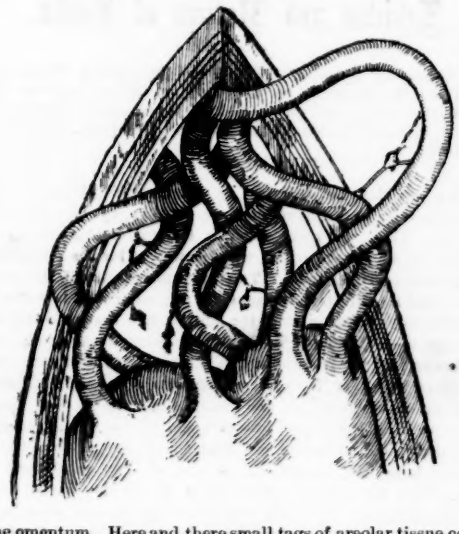
Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A RARE CONDITION OF THE OMENTUM.

BY J. GREIG SMITH, M.B., C.M. ABERD., F.R.S. EDIN.,
SURGEON TO THE BRISTOL ROYAL INFIRMARY.

AT an operation for the removal of a solid pelvic tumour performed on May 5th of this year a condition of the omentum was found which I have endeavoured to show in the accompanying sketch, life-size. On completion of the parietal incision, which was carried above the umbilicus, there protruded coils of vessels which exactly, in colour and size, resembled fat, well-developed earth-worms. They were hard, tense, and glistening, and looked so like worms that for a moment I was nonplussed, nor could my experienced assistant, Mr. Swain, or Dr. Michell Clarke, under whose care the patient was, suggest what they were. Prolongation of the incision upwards and a more close examination at once showed that they were the vessels of



the omentum. Here and there small tags of areolar tissue containing a little fat could be found on the vessels; but the whole omentum was transformed into a network of large vessels without any fat. A good many of the vessels were closely adherent to the tumour, these were tied in a bunch and divided. The rest of the omentum was left intact. The whole surface of the tumour was very vascular, and could not be handled without causing free bleeding. In spite of rapid delivery and the free use of large pressure forceps a great quantity of blood was lost before any tissue was divided. The bladder was embedded in the tumour, and its adhesions were more vascular than I have ever seen. The patient, a lady aged forty, had suffered severe pains for several years during the growth of the tumour, and was very thin. She made an excellent recovery. The exact nature of the growth has not been made out, probably it will turn out to be a myoma with sarcomatous elements.

Bristol.

FRACTURE OF THE CORONOID PROCESS.

BY R. S. CHARSLEY, L.R.C.P. LOND., M.R.C.S. ENG.

A GIRL aged twenty was thrown out of a dog-cart through the wheel coming in contact with a large stone at the corner of a street. I saw her an hour after the accident. She told me she had stretched out her arm to save herself and had fallen with all her weight on her hand. I found the right hand bruised and cut by the stones. The right elbow was very painful and I was for some time puzzled to account for the pain, all the bony prominences being uninjured and in place, the radius rotating freely, and the movements of the elbow joint being perfect, although accompanied by much pain. Pain was also produced by pressure on the head of the radius. I found, however, that when I grasped the lower end of the humerus in one hand and the fore-arm in the other, the latter being brought to a right angle with the former, a very slight amount of backward pressure produced a backward dislocation of the joint, the olecranon projecting considerably behind the humerus, and that when the pressure was reversed the joint slipped back into its place with the greatest ease. This proceeding I repeated once or twice, the dislocation being produced and reduced without the least difficulty. I placed a small roll of wool in the bend of the joint and secured it with a bandage round the joint and then put the arm in plaster of Paris with the elbow flexed till the bandage became fairly tight. In three weeks I commenced passive movement and obtained in the end a completely satisfactory result. I cannot account for these symptoms except by supposing that the coronoid process had become separated from the ulna by the fall on the outstretched hand. The great rarity of the accident makes the case worth recording.

Slough.

A CASE OF RAYNAUD'S DISEASE.

BY BRIGADE-SURGEON-LIEUTENANT-COLONEL E. J. FAIRLAND,
ASSISTANT PROFESSOR OF MILITARY MEDICINE, ARMY MEDICAL SCHOOL, NETLEY.

A MAN aged twenty-five was admitted to the Royal Victoria Hospital, Netley, on Jan. 19th, 1895. He was invalided from Hong-Kong for malarial cachexia. He had served in China for three years, enjoying fairly good health except for frequent attacks of ague, accompanied by coldness and numbness of his extremities. On the voyage home a bluish discolouration of the lobe of the left ear was noticed, and his hands and feet became benumbed and very painful. On admission he was in a very cachetic state; the hands and feet were in a condition of extreme venous engorgement, œdematous, and of a purplish colour. This cyanosis implicated especially the toes and forepart of the right foot, the index and middle fingers of the left hand. The point of the nose, the lobe of the left ear, the left thumb and left great toe also became cyanosed; and at times the right ear was similarly affected. The discolouration of the ears and nose was of a recurrent character, frequently disappearing altogether. Anæsthesia existed in the affected parts, and for some distance above them. At first, however, intense pain was felt in the regions above the cyanosed parts. Gradually the œdema subsided, the livid marbling of the surface disappeared, and early in February half of the right foot, the plantar surface of the left great toe, and the index and middle fingers of the left hand became mummified, shrivelled, and black. A line of demarcation formed above the gangrened portion of the right foot, accompanied by a fœtid discharge; but Nature made no effort elsewhere to throw off the diseased parts. Throughout the attack the pulse remained small and feeble; the temperature ranged between 97° and 101°F. The spleen was enlarged and tender. The other organs were normal. The urine was non-albuminous. On April 13th Surgeon-Colonel W. F. Stevenson removed the right foot (Syme's amputation) and the diseased fingers. The patient made an excellent recovery. Exposure at sea was the direct cause of the attack. Ague is a recognised factor in its etiology, and the patient's constitutional tendency to a stasis of the peripheral circulation was increased by his cachectic condition, which produced the lowered tissue vitality essential to the disease. Raynaud's three stages of local syncope, local asphyxia, and symmetrical gangrene were well marked; the case was characteristic in its etiology, progress, and result. The treatment was based on the symptoms—opium to relieve pain, and quinine and generous diet to remove the cachexia. The case was under the care of Surgeon-Lieutenant-Colonel H. H. Stokes, A.M.S.

Netley.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum allorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

OTORRHŒA; LATERAL SINUS THROMBOSIS; OPERATION; RECOVERY.

(Under the care of Mr. BERNARD PITTS.)

THIS is another instance of successful operation for septic thrombosis of the lateral sinus due to disease of the middle ear. As time goes on the great importance of the symptoms of this condition will be recognised, and we may hope that the patient will be sent up for operation at an earlier date rather than when his state is almost desperate. It is a subject for surprise as well as congratulation that this patient recovered. The symptoms of septic thrombosis of the lateral sinus are generally well known, but vary to some extent in different cases. The occurrence of pain over the mastoid process, vomiting, rigors, high and irregular temperatures, and the history of a chronic discharge from the ear should always make the medical attendant suspect the presence of a septic thrombosis of the sinus. In this case there appears to have been no swelling or tenderness along the course of the internal jugular vein in the neck, a symptom rightly regarded as a very important one, and we note the presence of internal strabismus. This was probably of old standing and not due to any meningeal inflammation of recent origin. We think, however, that a statement with regard to this would have been advisable as great difficulty is sometimes experienced in diagnosing an obscure case of thrombosis from one of tuberculous meningitis, and the presence of a recent strabismus is regarded as a strong argument in favour of the latter. The formation of deep abscess in the neck after operation takes place usually in one of two ways, either as the result of the escape of the pus of a suppurating thrombus through the wall of the portion of vein between the ligature in the neck and the lateral sinus or by the spread of pus along the surface of the internal jugular vein in those cases where it had previously formed in the sulcus lateralis. For the notes of this case we are indebted to Mr. Gerald Baldwin, surgical registrar.

A boy aged nine was admitted into the Hospital for Sick Children, Great Ormond-street, on March 23rd of this year. There was a history of twelve months' offensive discharge from the right ear. He had been treated for eight weeks at a special hospital and the discharge had ceased; but on March 14th he complained of intense ear-ache and frontal pain. On the 22nd the discharge from his ear began again after the application of poultices over the mastoid bone. On the morning of the 23rd he became delirious. When admitted he was very ill, with the temperature 103° F., the pulse 140, and the respiration 40. He complained of frontal headache, with pain and tenderness behind the right ear. Over the right mastoid process fluctuation was felt. Internal strabismus was noted in the left eye, and the ophthalmoscope showed blurring of the left optic disc with enlargement and tortuosity of the retinal vessels. The right disc was normal. Mr. Pitts saw the case in the afternoon and decided on immediate operation. An incision behind the right ear set free a small quantity of pus. The mastoid antrum was opened with a gouge and was scraped out together with the tympanum. Finally, the lateral sinus was freely exposed. After this had been done some very offensive pus oozed out from behind the sinus. Puncture of the sinus with a tenotomy knife revealed the presence of purulent clot in its interior. This was removed after incision. The immediate effect of the operation was a fall of temperature to 99°, but next morning the glass registered 104°. On the 25th Mr. Pitts tied the internal jugular vein at the level of the cricoid cartilage, the vessel being collapsed and empty. Even after this progress towards recovery was very slow and broken by rigors on four occasions, with high temperatures reaching at one time 106°. Two large and deep-seated abscesses formed in the neck, one around the internal jugular vein, the result of septic phlebitis, and the other below the right mastoid process, due to direct infection. These required incisions and drainage. The general treatment adopted was mainly dietetic and stimulant, the boy being encouraged to eat what he most fancied. All the wounds healed satisfactorily, though slowly, and he was allowed out of bed on May 17th, and sent to the convalescent home on June 3rd. He was then perfectly well, though naturally weak after so severe an illness. There was a slight discharge from the right ear and from the mastoid wound. The temperature had remained normal for four weeks. Both eyes were normal.

Remarks by Mr. BALDWIN.—The successful result of this case shows how hopeful we may be of success in lateral thrombosis provided the treatment be sufficiently thorough. At one time the patient's chance of recovery appeared to be very slight, but by energetic surgical treatment, with stimulation and good nursing, his life was saved. The condition of the patient when admitted, together with the rigors and remittent temperature persisting after operation, appear to show that even before admission he had absorbed a considerable quantity of the septic products into the general system, and his recovery is therefore all the more satisfactory.

Reviews and Notices of Books.

A System of Surgery. Edited by FREDERICK TREVES, F.R.C.S., Surgeon to the London Hospital. Vol. I. With two coloured plates and 463 illustrations. London, Paris, and Melbourne: Cassell and Company, Limited. 1895.

[SECOND NOTICE.]

THE articles on Injuries of Bloodvessels, Diseases of Bloodvessels, and Aneurysms are written by Mr. Pearce Gould. They are noticeable for the systematic plan on which the subjects are dealt with, as well as for the scientific spirit that pervades them. The important matter of Hæmorrhage and its arrest is discussed in a manner that is worthy of attention, showing that the author has bestowed much thought upon it. Thus, he defines secondary hæmorrhage as "bleeding arising from failure in the repair of an injured or ligatured vessel, or from ulceration into a vessel," a definition which embraces all the multifarious causes that may give rise to this variety of hæmorrhage. Then, by expanding this definition, he points out that the causes of secondary hæmorrhage can be referred to one of two conditions—viz., "(*a*) when the lumen of a vessel is opened up by ulceration of its walls (septic arteritis), and (*b*) when the pressure of the blood within it ruptures a healing artery before a strong resisting cicatrix has been formed." It is interesting to observe how either one or other of these conditions, or occasionally a combination of them, contributes to an accident which is far less common than it used to be. Amongst the several topics treated under the head of Diseases of Bloodvessels especial mention may be made of the section dealing with atheroma, phlebitis, and varicose veins. In the surgical treatment of the last-named preference is unhesitatingly given to *excision*, which in most cases is absolutely curative, no fresh development of varicose veins arising, a fact held to prove that varix does not depend alone upon over-distension. In those cases in which new varices do appear after operation, an explanation is to be found in the nature of the particular case, showing that the pathological tendency is still operative. The article on Aneurysm is well-planned and exact. We observe that Mr. Pearce Gould is careful to limit the phrase "cure" in relation to aneurysm to the condition of "organisation" of the clot, which can only be obtained by obliteration of the artery. The diagnosis of aneurysm, and in particular the question of treatment, are discussed with a fulness of detail which renders the article

one of great practical value. Descriptions are given of traumatic aneurysm and arterio-venous aneurysm, the article closing with an adequate account of the special features exhibited by aneurysms of particular arteries.

The volume closes with four chapters on Injuries and Diseases of Bones and Joints. That on Injuries of Bones is written by Mr. Stanley Boyd, who deals with his important subject in considerable detail. An accurate and practical acquaintance with the subject of fractures is of vital importance to all practitioners. These accidents are very common, and their treatment has to be undertaken by all except a very few physicians. They are also very varied in their nature, and the successful management of all the complications that may arise in connexion with them often taxes the resources of the most experienced surgeons; and yet they are accidents which the public generally regard as simple, even commonplace, and they are very prone to think that a result short of perfect restoration of the injured part must reflect discredit upon the practitioner in charge. The important thing is to have a clear grasp of the facts of the pathological anatomy of fractures, and to understand the mode of repair of these injuries. Mr. Boyd discusses the varieties of fracture, their symptoms, complications, and mode of union most fully, and our chief criticism of his article is that if anything he has been too diffuse and too elaborate and full for what is after all a student's text-book. The illustrations to this chapter are both numerous and excellent—a real assistance to the reader.

Mr. Clutton follows with a chapter on Diseases of Bones. This is a fascinating subject, and dear to every surgical pathologist. Mr. Clutton deals with it in a style that is in strong contrast to Mr. Stanley Boyd's—very concise and in places even too brief. The views enunciated are, of course, those current to-day, but Mr. Clutton is not pedantic and still writes of pus spreading along a bone under the periosteum, although the reader must clearly understand that the results described are due to the presence of infective organisms, and that to their spread is due the spread of the disease. Mr. Marmaduke Sheild writes on Injuries of Joints, especially Dislocations, and he has succeeded in describing tersely and clearly injuries which have too often been imperfectly pictured. The chapter is a thoroughly practical one and the illustrations are really useful, especially those showing in exact detail the special manipulations required for the reduction of dislocations. A good account of congenital dislocation of the hip-joint is given, and the various operations which have recently been devised for this deformity are described.

The chapter on Diseases of Joints is by Mr. A. E. Barker, who has devoted great attention to this important subject, and who, therefore, writes upon it with authority. Much excellent work in both the pathology and treatment of diseases of joints has been accomplished during the last few years, and the main results obtained will be found duly recorded by Mr. Barker. The injection of iodoform emulsion into tuberculous synovial membrane is recommended, but no mention is made of the similar use of other germicides such as chloride of zinc. Syphilitic diseases of joints are described; but we find no account of the deep worm-eaten erosions of articular surfaces occasionally met with in tertiary syphilis, and of which such admirable specimens were exhibited last week in the Pathological Museum of the British Medical Association. Following the description of diseases of joints in general is an account of the diseases of the individual joints. This part of the article is admirably done, and is a capital *résumé* of our present knowledge and current practice.

To this first volume of his System of Surgery the editor contributes only brief articles on such subjects as the influence of constitutional conditions upon injuries, tuberculosis, hæmophilia, and hysteria in its surgical relations; his more important contributions will be found in the second volume. The remaining article is on Anæsthetics, and is written by Dr. F. W. Hewitt, whose experience in this subject and ability in writing upon it are well known. We have already spoken of the work as being well printed and abundantly illustrated. A large number of the illustrations are original, and most of them have been executed by Mr. Berjeau. On the whole these illustrations are excellent, but some of them are coarse and ugly, and distinctly inferior. The illustrations in the chapters on Fractures and Dislocations will be particularly appreciated by students.

In conclusion, we must heartily congratulate all those who have been associated in the publication of this volume on the great measure of success they have attained. It is a thoroughly reliable text-book, accurate, fully abreast of current knowledge, and quite equal to any of its rivals. We anticipate that if the second volume equals this one in merit the work will meet with great and deserved success.

Hygiene and Public Health. By LOUIS C. PARKES, M.D. Fourth Edition. "Practical Series." London: H. K. Lewis. 1895.

SINCE 1889 three editions of this work have been exhausted, and a fourth is now being issued to the public. The author draws attention to the circumstance that the new edition has been revised, and to a slight extent enlarged where necessary in order to keep abreast of advancing knowledge. The book now contains 520 pages, is well illustrated, and sufficiently indexed. As in former editions, the best chapter is the one devoted to the Disposal of Refuse, than which we believe no clearer or better description is given in any text-book. The chapter on Food, Beverages, and Condiments is also an excellent one. The pages on The Contagia, although fairly practical, are not brought sufficiently up to date. Neither in the chapter on the Contagia nor in that on Communicable Diseases is any reference made to the recent researches relative to the finding of the typhoid bacillus in the urine and in the eruption, nor to its probably infrequent and accidental appearance in the alimentary canal. The author evidently still regards typhoid fever as an intoxication process. When he refers to the bacillus of typhoid fever "as almost constantly present in the alimentary canal," he is of course confusing what is now believed to be the true typhoid bacillus with the bacillus coli communis, the latter being a normal inhabitant of the intestine, although he afterwards gives some of the chemical tests which differentiate the two bacilli. Recent researches show that when the bacillus coli communis and the typhoid bacillus are grown together in the same medium the former kills the latter, and this fact no doubt applies equally to the life-period of these bacilli in the intestine. We are glad to see that the new edition is not over-burdened with figures, and for this reason it will no doubt be very acceptable to the busy practitioner.

MAGAZINES FOR AUGUST.

The Practitioner.—The journal edited by Mr. Malcolm Morris is one of the most interesting of the monthly medical magazines. The original communications include a very clearly written lecture on Hare-lip by Mr. Christopher Heath, illustrated with photographs of three degrees of the malformation. The lecture is full of thoroughly useful and practical hints. Dr. Goodhart refers in an apologetic manner to a complication of influenza—viz., Thrombosis; Mr. Rose writes on Enterectomy by Maunsell's method, and the editor on a Method of Staining the Fungi of Ringworm. Dr. Caley in Comparative

Studies considers Perityphlitis, and there is a sound article upon Disinfection. The Medico-Literary Causerie deals with Fees, Ancient and Modern; the balance is much in favour of the ancient scale, for to quote an example, which the writer omits, Demokedes, a Greek physician in slavery at Susa, cured Darius, who had sustained a bad sprain. For this the King gave him as many chains in gold as had previously loaded him in iron. He also introduced him into his harem, when each Sultana gave him a dish full of golden staters, and the stater was worth about £1 1s. "Fancy that now," to quote Hedda Gabler's weak husband. Reviews of the medical science, abstracts from foreign journals, and therapeutic notes make up a good number.

Chapman's Magazine.—The *pièce de résistance* this month is Miss Mary Wilkins's prize detective story. It is a new line for the talented authoress of "A New England Nun," and in some ways she has succeeded very well. Her character-drawing is excellent, and the tale has all the elements of a popular detective story—plenty of mystery and the skilled amateur detective; but the medico-legal element is marvellously incorrect. Mr. Fairbanks is murdered by a lady dressed in overalls. She stabs him over the heart with a pair of shears "a little after midnight." She, or rather the overalls, get covered with blood, and she slips into a cupboard in the daughter's room, when, feeling herself wet with blood, she catches hold of a dress hanging in the cupboard and wipes the stains with it. She also very imprudently leaves bloody hand-marks upon doors and shelves, and bloody footsteps on the floor, so the hæmorrhage was evidently profuse. The daughter gets up at five o'clock and finds her blood-stained dress in the cupboard *with the stains still wet*. Now, punctured wounds of the heart do not bleed freely externally, especially when the recipient of the wound is lying down, as in this case. Also the night is mentioned as being very hot, so the blood stains on the dress in the cupboard would have had ample time to dry between 12.30 and 5 A.M. These errors mar a really good story. Mr. Eden Philpotts's Demon Conger is good, and the asphyxia convulsions are well done.

The Humanitarian.—The first article in this periodical is Mr. Grant Allen's amusing denial of the charge of "culture." To call a man cultured is almost as bad as calling him "amiable." Dr. Forbes Winslow writes in the manner of Lombroso about the madness of genius, and Mr. J. Rice Byrne returns to his thesis that corporal punishment in schools is an accursed thing. He is evidently referring to schools under the Education Department, but even in them we think that an occasional flogging is most wholesome. Eton boys, Uppingham boys, Harrow boys, Winchester boys, and Westminster boys are all "swished," why should not other schoolboys be so too when it is called for, as it often is?

New Inventions.

A NEW UREAMETER.

A NEW ureameter which I have designed possesses the following points of advantage. It is extremely portable and simple, but it nevertheless estimates the amount of urea in urine with accuracy; moreover, only a small amount of sodium hypobromite solution is required for each estimation. The accompanying sketches will show the shape of the instrument. It is held in the position shown in Fig. 1, and about half filled with hypobromite solution. A cubic centimetre of urine is put into the little test-tube, which is then gently placed in the larger open end of the ureameter, and this is corked up. By turning over the whole thing in the direction of the hands of a clock to the position shown in Fig. 2 the urine is mixed with the hypobromite solution, and the whole of the nitrogen given off is registered by the level of the

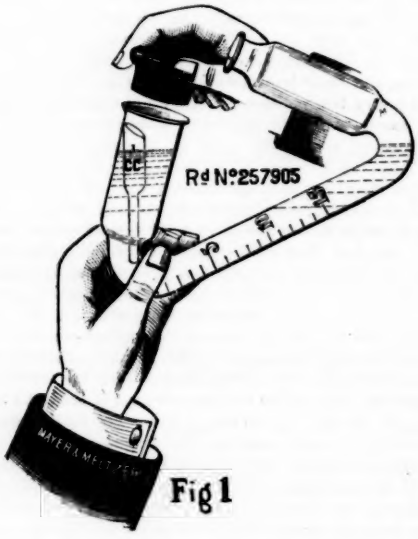


Fig 1

liquid in the graduated tube. After reading the indication, by turning round the instrument still further in the same direction as before, all the hypobromite solution which has not been in contact with the urine may be emptied back into

Fig 2

the stock bottle. It is evident that with this ureameter none of the nitrogen escapes into the open air, and the amount of hypobromite solution used is very small. Messrs. Mayer and Meltzer are the makers.

C. J. MAYHEW.
King's College, London.

THE LANCET.

LONDON: SATURDAY, AUGUST 10, 1895.

THE British Medical Association has reached its grand climacteric. It has held its sixty-third annual meeting, and the most prejudiced critic must allow that there have been few associations which could show more splendid achievements. The meeting itself was an achievement. Its numbers, its hospitalities, the quality of the addresses delivered by the President and the leaders of the Sections, the work of the Sections, the presence of distinguished foreigners, the wide recognition of it as an event by the general press, are features of the meeting which may fill all its promoters with just pride. Add to this the numbers of the Association itself, and we may dare to believe that the members of the Executive, those who feel the responsibilities of leadership, were never more satisfied with the Association than they are to-day. We ventured lately to say that the Association had been more successful in the discussion of questions affecting the science and art of medicine than of those which affect the interests of general practitioners. We are not vain enough to think that this friendly criticism is the sole explanation of the development of interest in these questions which characterised the proceedings of the recent meeting. But the interest shown was truly enormous. On the first day of the meeting and on the last the discussion of such topics formed a feature which must strike the most casual observer. Indeed, this solicitude for the general practitioner came with such a rush as almost to give the impression that if there were not some want of sympathy between the Council and the advanced reformers there was at least a difference of pace which made walking together rather difficult. On the midwives question the Council had come to a resolution which all responsible persons who have reflected on the matter seriously have reached long since. Dr. WARD COUSINS said that the Council had given days and nights to the consideration of this subject—not too much for the nature of the interests involved—and the first conclusion that they had come to was that "the present state of things was intolerable, and that a change was absolutely necessary." He then indicated the lines on which the Council had requested the Parliamentary Bills Committee to frame a measure for the registration of medical, surgical, and midwifery nurses. The Council recommended the substitution of the word midwifery nurse for that of midwife, and while recognising that every case of midwifery could not be attended by qualified practitioners, insisted that every registered nurse should be in touch with a qualified practitioner. This was essentially the proposal of Mr. LAWSON TAIT in the following resolution, which was carried by a large majority.

"That we, the members of the British Medical Association, while anxious to improve the training and supervision, and, if need be, support a practical scheme for the registration of medical, surgical, and midwifery nurses, emphatically condemn any proposal which has for its object the formation of a class of medical or surgical or midwifery practitioners other than those recognised under the Medical Act, 1886, as now existing."

It may be a matter of question whether Parliament will accept the absolute obliteration of the word midwife; but it is satisfactory that the Association has come to accept the views of the General Medical Council, and of its own council, in respect of the training, supervision, and registration of women—by whatever name they are to be known—who will stop a gap in ordinary labours among the very poor, which registered medical men cannot stop, and, as Dr. SCHARLIEB gave distinct notice, registered medical women are not prepared to stop. This resolution is an end to all controversy on the main question. But we cannot leave the subject without expressing our wonder that in arguing it Mr. LAWSON TAIT should have thought it necessary to castigate the Council of the Association for requesting the Parliamentary Committee to formulate the very views, which he expounded and which are now universally accepted. Sir WALTER FOSTER said that when the Bill came out of the committee all definition and limitation of function (of midwifery nurses) was gone. This must refer to the Committee of the House of Lords. But it is not, we think, an accurate statement. As we read the Bill the limitation of function to cases of natural labour remains in the fourth clause and is assumed all through. On another subject Sir WALTER FOSTER gave the impression that he considered the Council one of the most prejudiced bodies that he has encountered. We are no blind admirers of the General Medical Council, neither shall a disposition to do it general justice prevent us from expressing our satisfaction with Dr. LOVELL DRAGE'S resolution dealing with the monstrously inadequate recommendations of the General Medical Council as to the training of medical students in midwifery, requiring that they shall have been present at only nine confinements and have personally conducted "only three." Dr. DRAGE'S resolution, which was carried, also instructed the Council to seek the repeal of the section of the Metropolitan Poor-law Act which prevents workhouse infirmaries being used for clinical instruction of medical students.

Another lively subject came before the general meeting on the first day—the assumption by the British Medical Association of the functions now discharged, and very ably discharged by the Medical Defence and Protection Societies. The chief interest of the discussion was in the illustration afforded by it of a sharp difference of opinion between the Council and the members of the Association on the subject. Dr. WARD COUSINS and his colleagues intimated that the Council were advised that the Association could not accept such functions under the present memorandum, which, like the law of the Medes and Persians, does not seem to admit of alteration. We share the impatience of the members with a mere memorandum. On the other hand, we feel with the Chairman that for sixty-three years the memorandum has served very well, and that there is much to be said for making the work of medical defence the sole work of a special

society. It is a mistake to think that one body can do everything. Even the County Council and the British Medical Association may well consent to recognise a limitation of their powers. And the latter body may certainly be content to see other societies doing special work for the good of the profession.

We have not time to deal separately with all the questions opened in the resolutions—eight or ten in number—which were passed on the closing day of the meeting, without adequate discussion and we fear before somewhat small audiences. The Council has its work set out for the ensuing year. It has been requested by several formal resolutions to take steps for the suppression of advertising in all forms; to prevent members of the British Medical Association accepting posts in medical aid and kindred societies; to open a fund for indemnifying those who fight the battles of the profession against combined friendly and benefit societies; to communicate with universities and corporations requesting them to discourage members accepting medical aid and other appointments derogatory to the profession; to approach Government with a view to the constitution of an authority to control irregular practice, "with a preference for the British Medical Association" as that authority; to direct the attention of professors and teachers of medicine to the deplorable want of *esprit de corps* and the need for inculcating this virtue. Besides these, resolutions were passed suggesting an alteration of the constitution of the General Medical Council, condemning the employment of unqualified assistants; averring that those who violated the rules of professional ethics should not be met in professional intercourse, and that members of the British Medical Association should not hold office in any but really public hospitals, or gratuitously attend the inmates of pay wards in such hospitals. It is impossible not to agree with the spirit of these resolutions and the desire to bring the influence of the Association to bear strongly in carrying them into effect. But this is very different from carrying them by the dozen and leaving the *modus operandi* for twelve months in the hands of the Council.

The grand climacteric is an achievement and is full of honours; but it has its own risks and its own lessons of caution. The very size of the Association makes it unwieldy and difficult of control by its council. This is shown when a dozen orders of the first magnitude, involving applications to Parliament, to the General Medical Council, and to all the medical authorities, are hurled upon the council at the last moment of a festive and busy meeting. The council has had a warning that if it does not move a little faster it may have to be superseded by another set of councillors. Some means must be formed to steady the method of procedure by abstract resolution and to coördinate the action of the branches of the council, or else disappointment, not to say disaster and discord, will result.

THE equivocal position of the ductless glands in the animal economy, and the interesting nature of the facts that have recently been ascertained in regard to them, gave a special interest to Professor SCHÄFER'S address in Physiology. The functions of the spleen, thyroid, thymus, and supra-renal capsules have long been shrouded in obscurity, and many points in their life-history still remain to be elucidated. The similarity of the structure of these bodies to that of glands, but unprovided with ducts, their large volume, and the evident activity of the processes that take place in their interior, as indicated by their large vascular and nervous supply, which militates against the supposition that they are useless or that they are mere degenerate remains of once more important organs; and, on the other hand, the possibility of removing the whole or the greater part of their substance without apparent injury to the health of the animal—all these and many other facts combine to render them a physiological puzzle. For many years past, however, the conviction has been growing in the minds of physiologists that their true function consisted in the separation of certain materials from the blood, acting in the same fashion as the salivary glands or pancreas, but that these secretions, instead of being discharged from the surface of the body, as is the sweat, or into the alimentary canal, are reabsorbed into the blood, and fulfil certain definite purposes in the economy. Hence the term applied to them by Professor SCHÄFER of internal secretions. In one sense every part of the body, be it nerve or muscle, bone or fat, modifies the blood in a similar manner by abstracting from the blood the materials of its own nutrition and restoring to that fluid the products of its disintegration. In the cases of the liver and pancreas the internal secretion is more important than the external, since the secretion of the former of these glands at least may be permanently diverted by a fistula without interference with the vital functions, whilst removal of the whole gland is invariably fatal. As our knowledge of the liver and its functions has extended we begin to see the reason of this. The liver visibly secretes bile which may be abstracted before entering the alimentary canal without harm, but it also forms urea and glycogen, and it is the accumulation and decomposition of these products that cause death when the whole gland is removed. Analogous experiments on the pancreas enable similar deductions to be drawn. The pancreatic juice can be diverted by a fistula from the intestine, and the major part of the gland can be cut away without harm, but if the whole be removed death results from diabetes. The internal secretion of the gland is more important than the secretion it discharges by its ducts. After discussing the relations of the thymus and thyroid bodies Professor SCHÄFER dwelt at length on the supra-renal capsules, on which he, with the assistance of Dr. OLIVER and Mr. MOORE, has been working for some years. He sums up his results, which show conclusively that the medullary portion of the adrenals contains a dialysable organic principle, soluble in water and not destroyed by boiling for a short time, which produces a powerful physiological action upon both striated and unstriated muscular tissue, especially affecting the skeletal muscles and the muscles of the blood-vascular system, causing these contractions to be greatly prolonged, and in this respect resembling the action of veratria. It also has some exciting influence on the cardio-inhibitory centres in the medulla oblongata, causing the heart to slow down

but after section of the vagi it exercises an opposite effect, increasing the force and frequency of the heart's action, and thus leading to a great rise in the blood-pressure, which is enormously increased by its power of inducing contraction of the muscular tissue of the arterioles. These results, which are quite original, reflect great credit on Professor SCHÄFER and will, we trust, incite him to further inquiry.

THE facilities for higher education have now been open to women for a time sufficiently long to permit us in some measure to estimate the results of the modern movement from which so much has been hoped. In the *Nineteenth Century* for July Mrs. J. E. H. GORDON takes up the subject, and presents much interesting and valuable information. Her method is to take the statistics of Newnham, Girton, and other centres of higher female education, and to trace, so far as practicable, the after-careers of the women who have been trained in these institutions. The object of the writer is "to gain some practical knowledge as to what a university training leads to for women and how far it is worth while for girls to spend some years and some money in acquiring a solid knowledge of the higher branches of learning, such as mathematics, classics, moral science, &c., and whether this course of training does really ultimately make women's lives freer and happier, and if the honours they gain at college enable them to earn their own living by newer and more interesting means than by the old-fashioned methods of teaching, companionship, and needlework." The results of the inquiry are highly interesting, and will probably come as a surprise to most readers. The total number of students who left Newnham College from October, 1871, to June, 1893, was 720. Leaving out those who have died and the foreigners who have returned to their own countries, it would appear that 374 are at present engaged in teaching as a profession, 47 have married, including 9 or 10 of the lecturers and teachers, 230 are living at home, 5 are engaged in medical work, 2 are missionaries, 1 is a market-gardener, 1 is a book-keeper, 2 or 3 are working at charity organisation, and the remainder are for the most part engaged in secretarial work. The number of students who had passed through Girton up to June, 1893, and obtained degree certificates was 335. Of these 123 were engaged in teaching, 45 were married, 2 were missionaries, 6 were in Government employment, 4 were engaged in medical work, and 6 had died. It is to be presumed that the remainder were living at home. The statistics available from the women's colleges at Oxford give similar results. Of the 173 students who left Somerville College between the years 1879 and 1892, 73 are engaged in teaching, 29 are married, and two or three others are engaged in legal or literary work. The larger proportion of the ex-students of Lady Margaret's Hall are engaged in teaching. Holloway College (Egham), Alexandra College (Dublin), and Victoria College (Belfast) show practically the same sort of results. Summing up the statistics, Mrs. GORDON finds that the after-careers of 1486 ex-students of the various institutions have been ascertained. Of these, 680 are engaged in teaching, 208 have married, 11 are medical practitioners or preparing to practise, and medical missionaries, 2 are nurses, 8 or 9 are in Government employment, 1 is a bookbinder, 1 is a market-gardner, and 1 is a lawyer. A curious fact that comes out strongly in the statistics is that marriages are much more frequent among women who take ordinary pass degrees than among those who take honours. Thus, about 1 in 10 of those who take honours at Girton marries, while about 2 in every 5 who take an ordinary degree marry.

"In former days," says Mrs. GORDON, "marriage, teaching, and philanthropy were the principal professions that were open to women. The careful study of the reports published by the women's universities will, I think, incline parents to question if a university training has yet succeeded in opening the doors of any other profession. A few exceptionally gifted women have entered the medical profession, and a few have become workers in other fields, such as bookbinding, market-gardening, &c., but with these very few exceptions nearly all ex-students are engaged in teaching or are preparing to teach, and therefore it would seem that unless a girl has some special capabilities of mind and brain which, combined with a power of organisation, will place her at the head of the teaching profession after her training at the university is completed, she cannot at present hope that the years and the money devoted to her higher education will do very much for her in enabling her to enter upon a money-earning career in the future." As regards the percentage of marriages among university-trained women, different views will be held according to the prepossessions of the individual. The percentage is very low, and the facts are susceptible of various interpretations. It may be that a university education indisposes women to matrimony, or makes them fastidious in their choice, or provides them with a means of livelihood which makes marriage no longer a necessity; or—may it be hinted?—a taste for higher education may not be generally associated with the qualities which win the admiration and affection of men. It is certainly a striking and significant fact that if a woman takes a university career she is much more likely to become a schoolmistress than a wife. Whether this result is one to be deplored or not must be left an open question, but at all events the fact is very important.

The statistics thus elicited do not necessarily involve any disparagement of female higher education. They do, however, lead us to question whether it is either practicable or desirable that such education should become a usual thing among women. Exceptional women there will always be, with uncommon intellect and energy, who prefer an independent career to the quasi-dependence of matrimony. It is extremely important that such women should have the most ample opportunities for developing themselves, and that they should be allowed to exert upon the world whatever influence their intellect and character can justly claim. The world will be richer for such women, and there will be fewer stunted and dissatisfied lives. But the broad fact remains that such cases must remain entirely exceptional, and that the domestic career is the natural destination of the immense majority of women. Nothing can alter the course of nature, and no fine talk about woman's rights or wrongs can obliterate natural distinctions. That most fatuous of cries, "no sex in mind," can only prevail

with those who wilfully blind themselves to the teaching of history and the plain facts of daily life. Men and women are complementary the one to the other, and neither can profitably usurp the sphere of the other. The world's harmony and happiness depend upon their being not competitors and rivals, but allies and helpmates. We confess we are surprised to find how few university-trained women have adopted medicine as a career. That there is a place for women in the medical profession we willingly acknowledge, but we doubt if that place can ever be a large one. The heavy toils, constant responsibilities, and incessant anxieties of medical life are very exacting to even picked men. They must necessarily be much more exacting to women.

Annotations.

"Ne quid nimis."

THE DIFFUSION OF SMALL-POX.

THE metropolis has during the month of July experienced a by no means pleasant change in the behaviour of small-pox as compared with its quiescent state during the month of June, when the cases remaining in hospital never exceeded 34 at the close of any one week, whereas the disease made vast strides towards epidemicity in the four weeks of last month. The number of patients still under treatment at the end of the several weeks has progressively increased since the middle of June, when it was only 19, with prospects at that time of gradual extinction. At the end of June it had risen to 34, and in the next following four weeks to 42, 71, 89, and on July 27th to 199; though even here it has not stopped in its upward tendency, as on Aug. 3rd the patients in hospital were as many as 237 in number. The deaths, which in June were only 2, did not rise beyond 5 last month, and of these 3 were registered in the opening week. Of the 5, there were 3 in vaccinated persons aged over sixty years and 2 in persons concerning whose state as to vaccination no information is forthcoming. In the six weeks since the middle of June the admissions to hospitals of the Metropolitan Asylums Board and to the Highgate Small-pox Hospital have been in successive weekly periods 8, 25, 17, 36, 23, and in the fourth week of July 114 cases. Last week the admissions were two-thirds of the occurrences, and numbered 60. The deaths of July have been put down as belonging—3 to Camberwell, and 1 each to St. Pancras and Strand Poor-law districts. Cases have in the last fortnight of July been brought to hospital from twenty-six of the thirty-four Poor-law areas of the metropolis, though most of the cases came from Whitechapel, St. Saviour's, and Mile-end Old Town. As regards the last-named district, Mr. Taylor, the medical officer, states that during recent years the inactivity of the vaccination authority has resulted in many thousands of young people escaping vaccination, only to grow up to swell the ranks of small-pox victims sooner or later. Meanwhile the sanitary bodies of London are generally taking energetic steps for preventing as far as possible the spread of infection, though in some instances such carelessness on the part of the sufferers has been heard of as will go far to frustrate the designs of the health authorities. The occurrence of multiple cases in connexion with shelters has led the Whitechapel Board of Works to pass a unanimous resolution asking the Local Government Board to take steps to bring all shelters under the Common Lodging House Acts and requesting all the other sanitary bodies in London to support their application. Meanwhile the Local Government Board have issued two circular letters in respect of small-pox prevalence, the one to all boards of guardians throughout the country embodying their letter of 1893 and counselling guardians and their officers how they are to proceed in the event of small-pox being introduced to the workhouse and casual wards, and enjoining precautionary measures as to vaccination, revaccination, isolation, and the like; the other letter is to sanitary bodies in London, calling upon them to issue instructions to their health officers to immediately visit each case of small-pox notified, and to take at once all needed steps as to isolation, vaccination, disinfection, and so forth. The letter lays stress on the importance of adequate measures, especially on account of the growth of small-pox in London at a period of the year when the disease is usually at its lowest ebb. Around London small-pox has not displayed any marked disposition to spread, and in the provinces generally it has been but little heard of. Oldham was, perhaps, the most heavily hit place in England, a good many cases having occurred there during last month, and 6 deaths having been registered in the period, 4 of them in one week. The only other large town having fatal small-pox was Liverpool, where a single death was registered in the first week of July. But quite recently the disease has assumed somewhat serious proportions at the village of Thornhill, near Dewsbury, where 3 deaths have already taken place, 1 of them on Aug. 2nd. Some of the patients have been removed to the Batley Infectious Hospital. In Dublin small-pox continues to linger in a menacing manner, seeing that during the four weeks of last month the cases under treatment at the close of each week never varied by more than a unit. The admissions were successively 11, 6, 15, and 9, and against these 41 cases there were 45 discharges and 4 deaths. Of the 4 deaths, 3 were unvaccinated individuals aged under one year, over twenty, and over forty years respectively, and 1 in a person concerning whose vaccination no information is given. There were 35 acute cases in hospital at the end of the first week of July, and 36 three weeks later, the convalescents having fallen in the same period from 12 to 8 in number.

THE SURGERY OF WAR.

OUR readers, and especially our military medical readers, have no doubt perused the excellent address of Sir William MacCormac, President of the Surgical Section of the British Medical Association, at the late meeting. Sir William MacCormac, who has had considerable personal experience of military surgery, and has always evinced a keen interest in this branch of his profession, took for his subject, "Some Points of Interest in Connexion with the Surgery of War." The modern rifle, with its small, hard projectile travelling with enormously increased velocity to a much greater distance and with a precision that were not formerly attainable, has revolutionised modern warfare and introduced changes that have naturally excited great interest. The Lee-Metford rifle in action is at the present moment the subject of investigation in India, it being alleged that the "stopping-power" of its bullet was found, in the experience of the Chitral Relief Force, to have been limited. It is asserted that the long, thin, light projectile of the Lee-Metford rifle leaving the muzzle with very high initial velocity will, under certain circumstances and at short ranges, pass clean through bones and tissues without any splintering or smashing effect, and with so little resulting shock to the wounded as not at once to cripple them, and put an immediate stop to their attacking power. Between the results of experiments on dead animals and inanimate objects and the effects obtained on the living in actual warfare there are differences that can be explained and can be readily

imagined. Be all this as it may, and we are not yet sufficiently acquainted with the facts of the Chitral Expedition as to the effect of the projectile on large and long bones of dense structure as compared with thin flat bones, for example, to warrant the formulation of any definite rule, Sir William MacCormac's address is of much interest at the present moment, because it takes up in a scientific spirit and passes in review the results of all the observations that have been made and describes our present knowledge in regard to arms of precision and the surgery of modern warfare. It would be interesting to ascertain the results of the experience of the Japanese in the late Chino-Japanese War on several questions. From a military point of view the stopping-power of the Lee-Metford rifle is an important consideration for the British Army, engaged, as it often is, in warfare with savage or semi-civilised people, whose fighting tactics consist of impetuous charges and sudden onslaughts. As regards the effects of the consistence of the substance through which a projectile passes—whether dense solid fluid or semi-fluid or an admixture of these—much is already known, but much still remains to be accurately determined and on these and various other points Sir William MacCormac has a good deal to say that is both pertinent and practical. The principles of antiseptic surgery have taught us a great deal and revolutionised our ideas of the treatment of gunshot wounds and injuries, as any one may discern who will refer to Guthrie's Commentaries based upon the observations and experience of the Duke of Wellington's time. Not the least part of our knowledge consists, perhaps, in having learnt what not to do as well as what to do in modern warfare. Sir William MacCormac thinks we are justified in believing—although there is high authority for a contrary opinion—that the next great war will be more destructive to human life than any of its predecessors. But very many cases will remain less severe in character, more capable of successful treatment, and less likely to entail future disablement, while improved sanitation and antiseptic methods will enormously increase the proportion of recoveries. It is the unceasing effort of modern surgery to provide antiseptic protection in an effective form in time of war; and in this connexion he recalls the fact that the late medical organisation during our war in Egypt was so complete that not a single case of infective wound disease occurred during the whole campaign.

FAITH-HEALING OR SUICIDE?

AN inquest was recently held upon the body of a girl aged seventeen, who died in Brixton of acute tuberculosis and peritonitis from a perforating gastric ulcer, having been very ill since last Easter. She had no medical advice because, according to the evidence of the woman in whose house she had stayed, "she trusted in the Lord to heal her without medical aid." It is useless to point out to people of this cast of mind the falsity of their theological reasoning, but we do think that the Legislature, which takes care to prevent people jumping off the Monument or going on to ice too thin to bear their weight, might step in and prevent Peculiar People and faith-healers from murdering their children by neglect. We should be the last to deny the power of faith, but, as a recognised authority says, "faith without works is dead," and it is a canon of theology that the Almighty works by means, and those means humanity is bound to use. The *New Science Review* for July contains an article entitled "Has Mental Healing any Scientific Basis?" We do not quite understand this question, but we gather from the article that help need not always come from without, but there is a broad field for "auto-suggestion and systematic concentration with happy results." The way and means to become properly auto-suggestive is as follows. You say mentally to yourself—even mechanically at first—until the habit is formed, "I [the real ego] am well. I am strong. I am pure. I am perfect. I am one with the Divine Spirit of Wholeness." The next step is, "To ensure progress special times and seasons should be set apart for focalized thought and affirmation. ..... At times when the objective world, with all its cares and anxieties, may conveniently be barred out, the full glare of the consciousness is turned upon the Divine ideal within, which thereby gradually becomes graphic and ruling." It is evidently quite easy to become a mental healer, but we seem to remember that this process is not new. There was once a sect in the Eastern Church called the Ὀμφαλοψύχοι, who by steadily gazing at their navels were at length rewarded with a sight of the light (created or uncreated) which shone at the Transfiguration. This method, we suppose, is what Mr. Henry Wood, the writer of the article in question, calls "keeping company with his inner ideal." However, he does not seem to have much faith in the process he recommends, for he concludes: "As related to illnesses, prevention is the end to be sought, so that in time cures may be unnecessary." If anyone by "keeping company with his inner ideal" can cure a gastric ulcer he would be a most valuable addition to our present therapeutic agents.

DEATH REGISTRATION IN THE STRAITS SETTLEMENTS.

DR. DUMBLETON, in a paper recently read before the Straits Medical Association, forcibly called attention to the defects of the present registration system in the Straits Settlements. This system was established by a local Registration Ordinance issued in 1866. Registration under this system is effected through the agency of the police, the householder being responsible for reporting the death at the nearest police station, and for recording the name, age, nationality, and cause of death, with the names of the parents of the deceased person. One of the most serious defects of the system as a basis for trustworthy mortality statistics is the method of recording the cause of death. Diagnosis is largely left in the hands of the police, and to qualify them for this duty a list of about thirty names of diseases and symptoms of diseases, in English, Malay, and Tamil, is hung up in each police station. Among the natives there is probably very little regular medical attendance, but it is stated that when the deceased person has been attended by a medical practitioner a medical certificate is not necessarily asked for, and the cause of death stated in such certificate is by no means necessarily entered in the register, from which monthly returns are copied locally and furnished to the Registrar-General of the Colony. It is not surprising to learn from Dr. Dumbleton's paper that the result of this system, or absence of system, is, as regards causes of death, eminently unsatisfactory. The deaths of most of the adults in the colony are stated to be due to fever and of nearly all the children to convulsions. Under these circumstances it is practically impossible to form any sound opinion as to whether any real progress is being made in the direction of improving the health of the colony. The figures furnished to the Registrar-General from the various local districts are summarised monthly and published in the Government Gazette. It is pointed out that these official returns under this defective system are full of inaccuracies, and that the proportions of births and deaths to the population in a quarter are given instead of the annual rate in the quarter. The deaths recorded in the colony appear to be nearly twice as numerous as the births and were in 1892 equal to 32 per 1000 of the estimated population. It is clear, however, that the registration of births, as is the case in most native populations, is very defective. Of the 5197 deaths recorded in 1892, 1523 were

referred to fever, 861 to convulsions, 410 to old age, and 223 to beri-beri. Dr. Dumbleton calls special attention to the high rate of mortality of infants under one year of age, which he states to be equivalent to 338 per 1000 in Singapore against 264 in Bombay and 273 in Calcutta. It should, however, be borne in mind that where the registration of births is so manifestly defective as is the case in Singapore the proportion of deaths under one year of age to births very considerably overstates the true rate of infant mortality. It is not without interest to learn that small-pox in Singapore, though endemic, does not assume a virulent type or materially increase the mortality; that the colony is wonderfully free from cholera and enteric fever; that measles and whooping-cough are rare and mild disorders; and that scarlet fever and diphtheria are in the opinion of most local practitioners at present unknown. Under these favourable circumstances the high death-rate from all causes in Singapore is the more remarkable, more especially as the age and sex constitution of the population is distinctly conducive to a low death-rate. Without trustworthy returns of the causes of death the high death-rate cannot be referred to its true causes, and no such trustworthy returns are possible without the coöperation of the medical practitioners. Bearing in mind how intimately the improvement of the public health in the Straits Settlements is bound up with an improved system of death registration, we trust that Dr. Dumbleton's paper will promote this very desirable reform.

SURGICAL AID TO THE INJURED IN PARIS.

FOR some time past Dr. Marcel Baudouin, the very able and energetic secretary of *Le Progrès Médical*, has been inundating, as he himself puts it, the professional press with articles, all bearing one and the same title—"Instantaneous Surgical Assistance"—and at length there is some reason to believe that the indefatigable efforts of the enthusiastic journalist are about to bear fruit, the director of public help at the Prefecture of Police, M. Auguste Voisin, having recently communicated to the Council of Hygiene and Salubrity of the Seine a project of reorganisation for the relief posts in the city of Paris. It is true the new development thus somewhat ambitiously designated is rather puny, involving merely the provision of two more rooms in the vicinity of the police-stations, but a beginning is always a beginning, no matter how small and feeble it may be, and great ends have ere now been the result of futile commencements. M. Baudouin's comments, as might be expected, are formulated in satiric vein. After quoting the proverb that it takes innumerable taps to fix a nail firmly, he recommends all people with projects similar to that of M. Voisin to beware lest they place them too near the nail, which, by dint of incessant hammering, he hopes eventually to succeed in driving home. When wielding his hammer he has not hitherto been in the habit of crying "*Gare!*"—and such embryonic schemes might very easily get crushed, as though they were so many egg-shells. M. Voisin's project is not a complicated affair, as anyone can see at a glance, and, therefore, its author will in all probability achieve his desires and obtain what he asks for. The injured, it is true, will not be much better cared for than they are at present, but what of that? The authorities will be able to pose as having given the subject their deepest consideration; there will be some modification of existing ashlar work, and a vast amount of paper will be defaced. At any rate, enough will have been done to hoodwink an easy-going public. It is folly to provide a more or less properly fitted dressing-room at a police-station unless there is a competent practitioner in whose charge it can be placed, and whose services would be instantly available at any time during the twenty-four hours. Failing this the place would soon be converted into a centre of infection; ere long the only surgical appliance to be found there would be the sponge common to the entire station, as Professor Terrier felicitously phrased it; and whenever a serious accident occurred recourse would still have to be made to the nearest apothecary as at present. Finally, M. Baudouin complains that such enormous sums should be devoted to the protection of property from fire while so little is granted for the preservation of human life, although the latter, too, possesses a money value and is insurable. A miserable pittance of 45,000 francs has been inscribed in the city Budget for next year in order to provide new ambulances. Ambulances without a properly organised and instantly available *personnel!*—a putting of the cart before the horse which could only emanate from an impractical bureaucrat.

SALVATION ARMY SHELTERS AND SMALL-POX.

AT the meeting of the Vestry of St. George's, Southwark, held on July 30th, Dr. Waldo again made a statement concerning the shelter of the Salvation Army in Blackfriars-road. Nine cases had been notified from there and eight had occurred by direct infection in St. George's Workhouse. Cases had also occurred in Dantzic-street, probably infected from the same source, though this had not actually been proved. Dr. Waldo described how he had visited the shelter and had seen a man covered with the eruption of small-pox. This man was removed to the hospital, but another man who was sitting next to him, and who presumably was infected, escaped into the house, where the "captain" of the shelter refused to let Dr. Waldo search for him, while he himself professed his inability to find him. Therefore the man had to be left—a veritable focus of disease. The cubic feet of space for each individual was but 90 ft., the common lodging-house minimum being fixed by law at 341 ft., while the floor space was but 6 ft., the lodging-house floor space being 31 ft. The law, it appears, at present has no power to close such establishments; they come neither under the Common Lodging-house Act nor the Public Health (London) Act. "The law," said Mr. Bumble upon a memorable occasion, "is a hass," and it certainly seems to be so in this case. Powers should at once be sought by the sanitary authorities to enable them to do away with a standing danger to the health of the community.

THE FIFTH INTERNATIONAL CONGRESS FOR COMBATING THE ABUSE OF ALCOHOL.

ON the 20th, the 21st, and 22nd of this month will be held the Fifth International Congress for Combating the Abuse of Alcoholic Liquors. Its seat will be Bâle, as Brussels was that of the first congress, Zürich of the second, Christiania of the third, and the Hague of the fourth. Its programme includes forty-five papers of diverse lengths, in which the injurious effects of alcoholic indulgence will be treated from every point of view, with practical bearing on their prevention. Physiology, political economy, education and history will, through accredited representatives, have each something to say on the many-sided question which, be it remarked, will be dealt with, not so much by extremists who see nothing but evil in alcohol, as by those who can separate the use of it from the abuse. Nine papers will be devoted to the physiological and psychiatric aspects of alcoholism, and among these the most important are expected to be those of Dr. Legrain, a leading French authority on the subject; of Dr. Hans Buchner, Professor of Hygiene in Munich University, a chair which he holds in succession to Emeritus Professor Max von Pettenkofer; and of Dr. Fürer of Heidelburg, Assistant to Professor Kraepelin in the Chair of Psychiatry. Another interesting page in the discussion of

alcoholism is that of its introduction to savage races and the deplorable effects it has produced among them—a page which will be specially entrusted to medico-missionary explorers, English as well as German. The question of State interference, of legalised asylums for dipsomaniacs, and of the various means adopted by diverse nationalities of dealing with the sale of strong drink will also be handled, under the express condition, however, that all political or religious partisanship be wholly excluded. Bâle, it would seem, has an interest of her own in the subject of alcoholism. According to an official "Bericht über den Civilstand, die Todesursachen, und die ansteckenden Krankheiten im Jahre 1893," in that twelvemonth out of seventy-four men between the ages of forty and fifty, eighteen, that is, every fourth man, died of drink; of those between fifty and sixty every fifth man so died; altogether fifty-four victims to alcohol, or every eighth man. Popular attention is always the better for being drawn to such striking figures. In Switzerland especially such congresses—notably that held in Zürich in 1887—have been fraught with good results. A more energetic action in curbing the evil has flowed from them, and the great "Trinker-Asyl" at Ellikon dates its origin from that memorable meeting. Already the Bâle Congress numbers more than 200 "adhesions," and most liberal arrangements have been organised for their lodgment and entertainment. Programmes may be had on application to Mr. G. W. Bronner, 39, Dornacherstrasse, Bâle; while all further information will be freely supplied by the secretary to the Congress, Mr. Hermann Blocher, 26, Weiherweg, or by the president (Professor C. C. Burckhart), 4, Münsterplatz.

IS THERE A PARASITE OF MALARIA?

THE *Times* of the 6th inst. contained a telegram from Hyderabad to the effect that Surgeon-Lieutenant-Colonel Lawrie, assisted by Dr. Martyn Jordan, had demonstrated that the malarial hæmatozoa have no existence in fact, and that the not inconsiderable or inexpert body of microscopists, whose researches have become as familiar as household words, have one and all been deceived by the appearances assumed by leucocytal nuclei under the action of staining reagents. It is really too bad of Surgeon-Lieutenant-Colonel Lawrie to thus shatter at one blow all the fascinating history which the labours of Laveran and Golgi, of Marchiafava, of Manson, and of Thin, not to mention numerous American observers, have opened up to view; and with all respect for our distinguished *confrère* in the Deccan we, in common, we opine, with most pathologists, must decline to admit his interpretation of the characters of the blood in malaria. We would recommend him to carefully peruse the paper which Dr. Thin contributed to our columns a few weeks ago, and to follow the instructions there laid down in the study of the microscopy of the blood before he finally adopts an attitude of such total scepticism. It would, however, be hardly fair to criticise him on the strength of a telegraphic despatch, and no doubt we shall in due course be enabled to study the grounds which have led him to this conclusion. It will require a very convincing series of facts to upset the remarkable observations made in all quarters of the globe which have corroborated and expanded the truth of Laveran's important discovery.

SACRILEGE IN IRELAND.

A CASE was disposed of at the recent Cork Assizes, which is happily sufficiently rare to be of interest. At about six miles from Cork, in the village of Inniscurra, is also the graveyard of the district, on some high ground overhanging the Lee, and in this churchyard is the family vault of Sir George Colthurst, the owner of Blarney Castle. Some two months ago a soldier walking along the road, wandered into the burying-ground, saw the door of the vault open, and noticed that a sacrilege had been committed. He immediately gave information to the police who started to inspect the vault. Coffins had been dragged off the benches and forcibly broken open, while various bones, &c., were scattered about the floor. A leaden coffin had been cut through and the body pulled half out; while the skeleton of a lady was propped high up upon a trestle, and the gloves which had been upon her hands were torn off. This led the police to suspect the stealing of a ring. Eventually the crime was traced to some soldiers of the 10th Hussars. Two of them were returned for trial and sentenced to six months' imprisonment. The judge was of opinion that the crime was unpremeditated, and we earnestly hope it was but a silly freak, for in no country more than in Ireland is reverence for the dead more strictly inculcated and observed, and nothing could be more calculated to keep alive hatred between English and Irish than outrages of this kind, especially when committed by English soldiers, who, to do them justice, are not as a body prone to acts of this class, though sometimes drunken and thoughtless.

THERAPEUTICS OF HIGH FREQUENCY CURRENTS.

THE paper read by Dr. Apostoli on this subject at the meeting of the British Medical Association is an important one, and represents the direct practical application of the physiological facts brought out by D'Arsonval's experiments with animals. The current of high frequency and high potential is caused to traverse a large helix inside which the patient is placed, and the effect is to set up induction currents of a similar kind inside the patient's body. These travel in closed circuits through the tissues and produce nutritive changes, which can be recognised by their effect in increasing the elimination of carbon dioxide and of urea. The actual figures are promised at an early date. The results are good in diseases characterised by failure or impairment of nutrition, and accordingly Dr. Apostoli reports successes in anæmia and debility, gout, rheumatism, neurasthenia, and hysteria. In diabetes also there have been some favourable cases. The principle of the localised application of electricity for the relief of disease, so ably insisted upon by Duchenne, has delayed the recognition of the important general effects to be obtained from electrical treatment. At present there is a distinct movement in favour of general electrification as a therapeutic means, and the results appear to be almost identical in character, whether the method employed be by the alternate current electric bath, advocated by Gautier and Laret, or the high potential induction method of D'Arsonval and Apostoli, or the electrostatic methods favoured by Vigouroux and Morton of New York, who use the Wimshurst or some similar machine as the source of the electricity applied.

COTTON-BORNE SMALL-POX.

IN his annual report for 1894 Dr. Philip Boobbyer, the medical officer of health of Nottingham, furnishes a highly interesting and instructive account of an outbreak of small-pox which occurred in his district, and the spread of which he was able conclusively to trace to infected cotton. His notice was first called to the outbreak on Jan. 15th, when "a suspicious case" was notified as existing in a closed yard situated in the centre of the old town near the lace market, and on proceeding to the spot Dr. Boobbyer, by means of a vigorous house-to-house visitation, brought to light in or near this yard no less than eight cases of small-pox in the course of half an hour. The majority of the cases were recent in origin; but two—a husband and wife—dated back some three and five weeks respectively. In many houses in this infected

area was discovered a large quantity of cotton material which had been sent out by two wholesale firms for certain treatment, and wherever this cotton had been in contact with infection Dr. Boobbyer insisted on its disinfection. From subsequent inquiries it was elicited that the husband and wife above referred to had worked at the cotton goods at their own homes throughout their illnesses, and that on Jan. 3rd and 6th they had sent a large amount of cotton to one of the warehouses and at a later date to the others; and Dr. Boobbyer also ascertained that the wife in question was even at the time of his investigation secreting cotton with a view to its transmission to the warehouses, in spite of the fact that she was fully aware of the mischief this material had already wrought. The cotton sent on Jan. 3rd and 6th was all made up, it appears, in one room, and from this room no less than fifteen girls and one youth were absent owing to illness, while three of the remaining eleven showed symptoms of small-pox. On visiting the absentees at their homes they were discovered to be suffering from the same disease. The onset of the attacks occurred between Jan. 14th and 25th, dates which would point to Jan. 3rd and 6th as the time of infection. In the second warehouse into which cotton from the infected family had been received at dates later than Jan. 6th no cases occurred—a fact which, as Dr. Boobbyer observes, tends to the conclusion that at this period the infectivity of the patient had ceased. Thirty other cases occurred in Nottingham as a result of this outbreak, but proper preventive measures were adopted and no fresh cases occurred. The history of this outbreak shows, amongst other things, the danger to which the public may be unwittingly exposed, and therefore the necessity for making use of the protection afforded by vaccination and revaccination; and it is also a good instance of the results of vigorous action on the part of a medical officer of health. Had Dr. Boobbyer not discovered the unnotified cases it is difficult to predict what the extent of the mischief might have been. Instances such as these should, too, bring home to the public the impossibility of properly controlling small-pox without the aid of vaccination and revaccination. If every case of small-pox were recognised and isolated at the very moment it occurred—a purely utopian supposition—much more might be done, save for the nurses and attendants, in the matter of control than is possible now. With, however, the existence of unrecognised cases this disease, a class which experience teaches us includes not only modified but unmodified cases, attempts to properly control the disease without vaccination and revaccination must, as a rule, prove abortive. There are, nevertheless, still some persons claiming authority in this matter who go so far as to assert that if the Medical Department of the Local Government Board were as energetic in the matter of indigenous small-pox control as they are with regard to exotic cholera the former disease would be "stamped out" from this country in six months. All are entitled to express their opinion, and we shall, we trust, be forgiven if we venture to say that statements of the kind referred to show a want of intimacy with the natural history of both diseases as they manifest themselves to those who are brought face to face with their control as medical officers of health. Indigenous diseases such as small-pox or scarlet fever are not "stamped out" in these days—at any rate, by means of notification and isolation. By these methods they may be, and doubtless are, very materially repressed; but, so far as they are concerned, the stamping-out process can only be effected, if at all, by modifying either the human environment or the disease organism.

UNIVERSITY STATISTICS IN SWITZERLAND

THE seven Swiss seats of learning—not including the Polytechnicum at Zürich—during the half year (Winter-semester) 1894–95 had in all 3119 students and 1694 zuhörer (auditors), among whom 362 were female students and 238 female auditors. The total number of "Studierenden" amounted, therefore, to 3813, of whom 600 were females. In the study of theology were engaged 449 persons (290 Protestants and 159 Catholics), among them 1 lady (from Geneva); in that of law, 610 (of whom 7 were ladies); in that of medicine, 1081 (of whom 221 were ladies); and in that of philosophy, 1673 (ladies, 171). Of the 3119 students proper, 1847 were Swiss (ladies, 38) and 1272 foreigners (ladies, 324). Germany supplied most of the latter, viz., 394 (ladies 49); Russia, 366 (ladies 212); Bulgaria, 146 (ladies 7), &c. Geneva was the most frequented school, with 815 (ladies 184); Zürich, 808 (ladies 196); Bern, 712 (ladies 125); Bâle, 527 (ladies 11), Lausanne, 516 (ladies 62); Freiburg, 305; Neuenburg, 130 (ladies 22). Theological students were most numerous at Freiburg, 152, and at Bâle, 83. Law chiefly frequented Bern, 150, and Lausanne, 125. Medicine was most largely represented at Zürich, 331, and Geneva, 274. Philosophy numbered 376 at Geneva, Zürich coming next with 308. Compared with the half-year (Winter semester) 1893-94 the students have increased in number by 114.

SIR HENRY PITMAN.

MUCH regret was felt among the numerous friends of Sir Henry Pitman when it became known that he was suffering from the effects of an accident sustained on July 29th. We understand that in crossing a narrow road he passed behind a little cart and the pony suddenly backed, causing Sir Henry Pitman to fall on his hip, which was much bruised. Naturally he was also much shaken, but most fortunately no bones were broken, and his friend and neighbour, Mr. Collyer of Enfield, was able to give a favourable report on the following day. We heartily congratulate Sir Henry Pitman on his escape from more serious injuries, and sympathise with Lady Pitman in her anxiety.

THE TRADE IN DRUGS AND THE MEDICAL PROFESSION.

A ZEAL for modesty of expression does not usually distinguish the processes of commercial ambition. On the contrary, quite another kind of enthusiasm is its inspiring genius, and it is commonly found that simplicity of statement and truth itself are so dressed and altered by self-assertion that their very character is lost within a maze of embellishments. If this property of advertisement were generally recognised and allowed for, if even it were limited in its use to matters of secondary moment, we might contentedly wait for the verdict of experience upon its protestations. But we are still unprotected by any such desirable safeguards. It matters little apparently whether a marketable substance is in itself dangerous or the reverse. There are two allowed judges in such matters, and in many cases two only, the seller and the buyer, the former not disinterested, the latter or both imperfectly instructed. To no branch of business do these remarks apply more forcibly than to the trade in drugs. It is common to find that a variety of dangerous substances are commended in circular notices by non-professional salesmen with a freedom and self-confidence not enjoyed by many clinical authorities. What would be even more amusing if the subject were not one of serious practical importance is the complacency with which the medical profession itself is instructed in these broadsheets as to points of diagnosis and treatment. Not only is the pet remedy commended in its thousand applications, but the general course of medical procedure in relation to various diseases or symptoms is laid down in no uncertain terms. It is obvious that a method so presumptuous in its half-

knowledge cannot command the attention of rightly discriminating practitioners. A simpler and a less pretentious attitude would be much more certain of a fair hearing. The duty of Governments in this relation ought not to be overlooked, and in this country it is apt to be regarded somewhat carelessly. The nostrum is viewed in its entirety as a saleable article, and then—*caveat emptor*. This is hardly enough. If the sale and advertisement of such articles are permitted it is, at least, advisable that their composition should be frankly stated. Abroad they order this, among other things, better than in our own free country.

DANGEROUS PERFORMANCES.

IN our issue of June 27th we commented upon the unnecessary danger attending trapeze performances owing to the height at which the apparatus is suspended. On Aug. 1st the father of two children aged twelve and fourteen applied through a solicitor for a licence for the children to perform. It was stated that recently the younger child had fallen. Mr. Sheil refused the application on the ground of the children being too young. This, it appears to us, is not the most cogent reason for objecting to these performances. Training in physical exercises must be begun in youth, but, to repeat our recent argument, these gymnastic exercises should be compulsorily gone through at a reasonable height above the ground. Another lamentable waste of life occurred at a fête held at Peterborough. The "attractions" included a balloon ascent and a double parachute descent by a man and a woman. As the balloon went up the parachute of the woman caught on a telephone wire and fell. When the balloon had risen about sixty feet the woman jumped out and, falling on her head, was killed. The man descended safely. Now this sort of exhibition ought not to be allowed. The making of money out of a morbid propensity on the part of people for enjoying the sight of other people risking their lives should be made a punishable offence. At the inquest the jury returned a verdict of "Accidental death," and we are glad to see added as a rider: "That since no useful purpose is served by these senseless exhibitions, at which the lives of performers are risked, they should be made illegal."

DIPHTHERIA IN LONDON.

DIPHTHERIA continued to show an increase in amount in London during the eight weeks of June and July, the increase having been steadily maintained during that period, though the registered fatal cases in the time have shown some fluctuation, wavering between 33 as a minimum and 53 as a maximum weekly number. But the increase of amount of diphtheria has not had a corresponding increase of per case mortality, this rate having rather shown a slight disposition to decline. On the other hand the number of patients remaining in hospital has progressively increased since the last week of April, when it was 432, to 508 at the close of May, to 633 at the end of June, and to 681 on July 27th. Again, the admissions to hospital can hardly be taken much account of, as they are of necessity not only a varying quantity, but they have been but a small percentage of notified cases, only some 40 per cent., for example, of the patients heard of in London in the four weeks of last month. The unbroken sequence of increase of amount of diphtheria in June gave an average weekly number of 200 cases, but in the succeeding four weeks this average increased by nearly 40 per cent., though the average weekly per case mortality of the earlier month, namely, 19·1, gave place to the lower rate of 17·3. Looking to the records of the eight weeks to the middle of July, and dividing the period into two of four weeks each, we find that the notifications of the earlier period were in London as a whole 718, and that they gave place to 1,047 in the second half, whilst in the whole time there were in Mile End 78 notifications, 82 in Bethnal Green, 83 in St. Pancras, 110 in Greenwich, 134 in Camberwell, 136 in Poplar, and 168 in Lambeth sanitary areas. In the matter of registered deaths the weekly average in June was 38, but in July 47, the weeks of the latter month giving 23, 20, 10 and 14 above the corrected average, or as a whole 47 against the corrected average of 31 deaths. Distributing the deaths in the first four weeks of July among such sanitary areas as had large numbers, the Registrar-General states that in one week there were 4 each in Newington, Hammersmith, and St Pancras, and 6 in Fulham; in a fortnight, 8 each in Poplar and Bethnal Green, 9 in Mile End, and 12 in Greenwich; in three weeks 12 in Lambeth; and in the four weeks 22 in Camberwell sanitary area. Looking to this state of things in London at the present time, it will be interesting to watch the records of the next few weeks with a view of seeing what effect, if any, the closure of schools will have on the amount and character of diphtheria, whether, in fact, the same effect will be witnessed as Mr. Shirley Murphy has so graphically shown to have been in operation in 1893. In the four weeks treated of last month, out of the total 90 deaths registered, there were 180 in young persons aged between one and twenty years, or 95 per cent. of the whole. During the same period there were 70 deaths from diphtheria registered in Greater London, and of these 32 belonged to the West Ham district, which has now for some time past suffered excessively from the disease.

A JENNER CENTENARY IN RUSSIA.

THE custom of keeping anniversaries of remarkable events is one much honoured in the observance in Russia. Sometimes the period since the event happened is measured by centuries, as when in 1888 the ninth centenary of the Christianising of the Russian race was kept with due solemnity, or, as happened a fortnight ago, when the first centenary of the union of Courland with Russia was made the occasion of several days' festivities. More often (never a day, indeed, passes without) it is the jubilee, or semi-jubilee, or the twentieth, or tenth, or even on one occasion (carrying the practice *ad absurdum*) the fifth anniversary of some official's entry into the public service. A centenary to be observed next year is one of universal interest. On May 2nd (14th), 1896, according to an announcement of the Russian National Health Society, one hundred years will have passed since Jenner made his "first scientific experiment in vaccination." To commemorate the event the society proposes: (1) to offer four prizes for the best works upon vaccination; (2) to collect and publish materials for a history of the practice of vaccination in Russia, and also a short history of the same in Western Europe; (3) to publish a Russian translation of Jenner's works, with his biography and portrait; (4) to organise an exhibition of objects connected with vaccination; and (5) to hold a commemorative meeting on the day of the centenary. Further details will be published later. The task of editing the history of vaccination has been undertaken by Dr. Vladimir Hubert, who is a recognised authority upon the subject.

KILLED BY LIGHTNING STROKE.

DEATH from lightning is, contrary to popular opinion, so rare in this country that special interest attaches to any example of it. The most recently recorded one has, in addition, an element of pathos from the fact that the victim—a medical man—met his death while hurrying to do what he could to relieve a little child suffering from severe burns. Mr. Reese, the medical man in question, lived

at Ystradgynlais in the Swansea valley, and his way to the patient led over a high mountain called Drym. When at the summit he apparently entered the focus of a severe storm, and the discharge took place through his body and that of his horse, killing them both instantaneously. It is generally easy to be wise after the event, but a mountain top is always a dangerous place in a storm, for the protrusion of the mass of the mountain above the rest of the earth surface attracts any cloud, more especially one charged with electricity, and anyone crossing this area, like a "point" on a conductor, is extremely likely to determine the direction of the discharge through himself. If Mr. Reese could only have waited on the lower slopes he would have been comparatively safe, but this course his anxiety to reach his patient—who, we may mention, died before he could have arrived—prevented. As it happened, his body would offer a good conductor to the current. He was probably wet, and, being on a horse, had a good earth connexion by means of the horse's four iron shoes so that any discharge between the earth and the cloud would be very likely to traverse his body. Mr. Reese's great popularity in the county where his work lay, combined with the tragically dramatic nature of his death while obeying the call of duty, render his fate a particularly and sadly impressive one, and we desire to express our sincere sympathies with his immediate friends and neighbours in their loss.

CHOLERA.

WE are glad to notice that the views which are held in this country and have so long been advocated in THE LANCET as to the futility of a rigid system of quarantine to keep out cholera are making progress in other countries. Dr. Eugene Farkas, District Superintendent of Public Health, Budapest, in the paper he read at the meeting of the British Medical Association regarding the late visitation of cholera in Hungary, said that the Government made strenuous but unsuccessful efforts in the summer of 1892 to prevent the importation of cholera into that country. The rigid measures adopted caused very grave injury to commerce and trade, but the disease, in spite of these efforts, arrived at Budapest in September of that year, and subsequently made considerable extension in Hungary, mainly in the course of the rivers. The Hungarian Government in November, 1892, abandoned the greater portion of their restrictive measures. A marked change has taken place, too, in public opinion in Hungary regarding the importance of general sanitary measures and in favour of the English methods of dealing with epidemic cholera.

Apropos of the serious outbreak of cholera among the Japanese troops early in June last, followed by its appearance in Corea in July, the occurrence has given rise to the publication of an article in the last number of the Transactions of the Imperial German Board of Health on the spread of cholera as a sequel of war. The paper in question traces the history of the disease, in connexion with the part played by war in its spread, from 1830 to 1866, as shown by the facts collected by Herr A. Hirsch. The disease prevailed extensively in the Japanese Army towards the end of the late Chino-Japanese War, and at one time caused serious alarm to the authorities in Japan.

We have heard relatively little of cholera during the present year in Europe and India. As commonly happens, a period of great epidemic prevalence is followed by one of freedom from cholera, and India during last year, and up to the present during the present year, has been singularly free of the disease. As far as Europe is concerned there have been cases in some of the Government districts of Russia; and it is reported from Galicia that Asiatic cholera has broken out in the towns of Visnovice and Vyzogrod in Russian Podolia, near the Austrian frontier. According to a correspondent of the *Standard*, the disease has much increased of late in the vilayets of Asia Minor. Between May 23rd and July 24th there were eleven hundred and thirty-four attacks and six hundred and seventy-seven deaths officially reported.

News has come to hand of some cases of "cholera" in the vicinity of Paris, but there is at present no authentic information as to its nature.

THE HOLIDAY SEASON AND RAILWAY FACILITIES.

THOSE who have been compelled by circumstances, or who on account of the unsettled state of the weather, have decided to postpone their annual holiday will still find an ample store of trips and tours among the announcements of the various railway companies. Last year we briefly detailed some of these tours, and for the convenience of our readers furnish a similar article this year. Before doing so, however, we should like to draw attention to some of the almost indispensable handbooks issued by the more enterprising of the companies. The Midland Railway is lavish in the literature which it provides for the public. For three pence a Pocket Guide to the Midland Railway of England can be obtained, and besides containing general information of use to the tourist, makes a pleasant companion while actually travelling in the company's carriages. Various objects of interest *en route* are pointed out and the book is well illustrated.

"Where to Stay" is another useful book issued by this company, and contains a list of some of the best hotels in the United Kingdom and abroad, arranged alphabetically. "Summer Tours in Scotland" contains some good views of Scottish scenery, and is an admirable guide for Scottish tourists. The list of furnished lodgings adjacent to stations on and in connexion with the Midland Railway Company will prove of service to travellers on this line. The London and North-Western Railway Company also publish a list of lodgings, and their "Tours in Ireland" give to the tourist just the information he is likely to want. "Summer Tours in Scotland and England" is a similar book issued by the same company.

The London and North-Western Railway.—Every Saturday during August and September a cheap train will leave Euston at 8.15 A.M. for Rhyl, Abergele, Colwyn Bay, Llandudno, Conway, Bangor, Aberystwyth, Barmouth and Llanberis (for Snowdon), and Llangammarch Wells, returning on the following Monday, Monday week, Saturday week or Monday fortnight. The fare to Carnarvon, Harlech, Portmadoc and Llanberis is 22*s.* and to Rhyl 18*s.*, with proportionate charges for the intermediate towns. The tours in the English Lake District are very comprehensive and cheap tourist tickets are issued to many of the principal English towns through which the company's lines run. Till the end of October tourist tickets, first and third class, are issued between Scotland and England and there are charming circular tours in Scotland, including Oban, Fort William, Caledonian Canal, Inverness, Aberdeen, Perth, and the Highlands till Dec. 31st. The company's guide book gives details of seven tours covering the most interesting parts of Scotland.

Fares for the Round—

From	For tours Nos. 1, 2, 3.		For tours Nos. 4, 5, 6.		For tour No. 7.	
	1st Class.	3rd Class.	1st Class.	3rd Class.	1st Class.	3rd Class.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
London { Euston and Kensington	174 8	77 0	170 3	75 0	169 9	77 0
London { Broad Street, Victoria	175 4	77 0	170 11	75 0	169 9	77 0
Birmingham (New Street and Monument Lane)	148 8	75 8	144 3	72 11	143 9	72 0
Liverpool (Lime Street and Edge Hill)	122 4	60 2	115 0	57 5	114 6	56 6
Manchester (Exchange and Ordsall Lane)	127 4	65 2	121 9	63 5	121 3	62 6

Special arrangements have been made this year for visitors to Ireland. We give below a selection of six circular tours in the north of Ireland :—

No. 1.—*Vid* Fleetwood to Belfast, thence to Portrush, Londonderry, Enniskillen, Dundalk, Drogheda, and Dublin, returning from Dublin (North Wall), or Kingstown, according to the ticket held, *vid* Holyhead and Chester.

No. 2.—*Vid* Chester and Holyhead to Dublin (North Wall) or Kingstown, according to the ticket held, thence to Drogheda, Dundalk, Enniskillen, Londonderry, and Portrush, returning from Belfast *vid* Fleetwood.

No. 3.—*Vid* Chester and Holyhead to Dublin (North Wall) or Kingstown, according to the ticket held, thence to Drogheda, Dundalk, Enniskillen, Londonderry, Portrush, Belfast, Portadown, Newry, and Greenore, returning *vid* Holyhead and Chester.

No. 4.—*Vid* Chester and Holyhead to Greenore, thence to Newry, Portadown, Belfast, Portrush, Londonderry, Enniskillen, Dundalk, Drogheda, and Dublin, returning from Dublin (North Wall) or Kingstown, according to ticket held, *vid* Holyhead and Chester.

No. 5.—*Vid* Fleetwood to Belfast, thence to Portrush, Londonderry, Enniskillen, Dundalk, and Greenore, returning from Greenore *vid* Holyhead and Chester.

No. 6.—*Vid* Chester and Holyhead to Greenore, thence to Dundalk, Enniskillen, Londonderry, Portrush, and Belfast, returning from Belfast *vid* Fleetwood.

Passengers by either of these tours may break the journey at Belfast, Portrush, Londonderry, Strabane (whence the tourist will be enabled to visit the wild and picturesque scenery of Donegal), Enniskillen (for the Lakes Erne, Ballyshannon, Bundoran), Dundalk, Greenore (for the Mourne Mountains), Drogheda, Dublin, Holyhead, and at any station on the main line between Holyhead and Holywell (inclusive), as also at Flint, Chester, and Crewe; also at Fleetwood, Blackpool, and Preston, if included in the line of route.

***Lough Erne.*—A pleasure steamer sails each weekday until Sept. 24th, 1895 (weather permitting), from Enniskillen, at 10 A.M. to Belleek, (24 miles), returning from Belleek at 3.15 P.M. for Enniskillen, traversing the whole of the beautiful Lower Lake. Passengers holding North of Ireland circular tour tickets will, on presenting them at the Enniskillen booking-office, be supplied with tickets for the steamer free of charge.**

***Donegal Highlands.*—Excursion tickets are issued at Londonderry (L. and L. S. R.) to Buncrana, Rathmullan, and Letterkenny, for the fine scenery of the Donegal Highlands.**

The following table shows the fares from some of the principal towns :—

From—	North of Ireland, Nos. 1, 2, 3, 4, 5, and 6.				
	Vid Dublin (North Wall), Fleetwood, or Greenore.			*Vid* Kingstown.	
	1st Class and Cabin.	2nd Class and Cabin.	3rd Class and Steerage.	1st Class and Saloon.	2nd Class and 2nd Cabin.
Birmingham ...	82 0	65 0	48 0	86 0	68 0
Liverpool	62 0	51 0	40 0	65 0	53 0
London	111 0	84 0	57 0	117 0	88 6
Manchester ...	66 0	53 0	40 0	69 6	55 6

The Midland Railway.—The excursions arranged by this Company from the various stations on their lines embrace Yorkshire, the Lake District, the East Coast, Lancashire Coast, Bath, Bournemouth, and the West of England, Scotland, Ireland, Wales, and the Continent. The circular tour of the Lake District is an admirable one, and tickets are issued from the under-mentioned stations, enabling passengers to make a tour of the most interesting portion of the Lake District, travelling by the following route: *Viâ* Wennington, Carnforth, Grange, Windermere (Lake Side), by steamer up Windermere Lake to Ambleside, thence by Taylor's well-appointed coaches to Keswick through Grasmere, returning by rail throughout *viâ* Penrith, Appleby (passengers finding their own way from one station to the other), and Settle; or the tour may be made in the reverse direction. From London: first class, 86*s.*; third class, 47*s.* Birmingham: first class, 60*s.*; third class, 31*s.* Leeds: first class, 37*s.*; third class, 20*s.* From other stations on the company's lines the fares are proportionately cheap. The journey may be broken at Grange and Cark-in-Cartmel, at Lake Side, Bowness, The Ferry, and Low Wood on Windermere Lake; Ambleside, Keswick, Troutbeck (for Patterdale and Ullswater), Penrith, and Appleby. The tickets are issued subject to the running of the coaches, and will only be available for the coach journey as long as the coaches continue to run. The fares include coachman's fees. For particulars of the coaches running between Ambleside and Keswick, see note above referring to bookings to Keswick direct. On Thursday, Aug. 22nd, cheap excursions will be run to Dublin, Cork, Fermoy, Killarney, Limerick, Castle Connell, Killaloe, Listowel, Mallow, Parsonstown, Thurles, Athenry, Ballina, Galway, Sligo, Westport, Ballinasloe, Dromod, and Roscommon, by the Midland Company's route through the Peak of Derbyshire to the Midland Central Station, Liverpool, and thence by the City of Dublin Steam Packet Company's first-class steamer sailing (weather, &c., permitting) from the Clarence Dock at 11.30 P.M., and on Wednesday, Aug. 14th, *viâ* Morecambe, sailing at 6.0 P.M. The fares from London to Dublin by this excursion are first class and saloon, 42*s.* 6*d.* and third class and deck, 21*s.* 6*d.* On Sept. 6th there is a cheap excursion to Belfast, Londonderry, Portrush, Giant's Causeway, Armagh, Bundoran, Enniskillen, Warrenpoint, Ardglass, Downpatrick, and Newcastle, Co. Down. From London the fares range from 53*s.* 6*d.* first class and cabin, and 28*s.* third class and deck to 68*s.* 1st class and cabin, and 35*s.* third class and deck. Equally cheap excursions will be run to Scotland and to the North of England on Aug 16th. Week-end excursions to Malvern start from St. Pancras Station every Friday and Saturday, returning on the following Sunday, Monday, or Tuesday after date of issue. The first class fare is 25*s.* 9*d.* and the third class 13*s.* Special facilities are made by this company for intending visitors to Southend-on-Sea and half-day trips to St. Albans and Harpenden run every Saturday at two o'clock or a little after at the return fare of 2*s.*

South-Eastern Railway.—The following circular tours have been arranged by this company *viâ* Ostend. Circular tours in Belgium :—

No. 1. London to Brussels and the Banks of the Bocq.*—Itinerary: London, Brussels, Namur, Dinant, Yvoir, Namur, Brussels, and return to London, First Class, £3 16*s.* 8*d.*; Second Class, £2 16*s.* 4*d.

No. 2. London to Brussels and the Banks of the Meuse.*—Itinerary: London, Brussels, Namur, Dinant, Eprave (for Grottos of Rochefort and Han). Brussels, and return to London, First Class, £3 18*s.* 9*d.*; Second Class, £2 17*s.* 9*d.

***No. 3. London to Brussels and the Banks of the Embleve.*—Itinerary: London, Brussels, Liege, Chandfontaine, Spa, Trois-Ponts, Stoumont, Rivage, Liege, Huy, Namur, Dinant, Namur, Brussels, and return to London, First Class, £4 7*s.* 11*d.*; Second Class, £3 4*s.* 4*d.* The tickets for these tours from Brussels are available to return within thirty days from the date of stamping at the Brussels Station, and are issued in conjunction with return tickets from London to Brussels, which are available to return within one month from the date of issue. The fare *viâ* Calais is £1 more in each instance.**

***London to Paris, the Centre of France and the Pyrenees (available for forty-five days).*—1st Itinerary: Folkestone or Dover, Boulogne or Calais, Paris, Bordeaux, Archacon, Mont de Marsan, Tarbes, Bagneres-de-Bigorre, Montrejean, Bagneres-de-Luchon, Pierrefitte, Pau, Bayonne, Bordeaux, and Paris to London, or the route may be reversed beyond Paris.—2nd Itinerary: Folkestone or Dover, Boulogne or Calais, Paris, Toulouse, Bagneres-de-Luchon, Bagneres-de-Bigorre, Pierrefitte, Tarbes, Mont de-Marsan, Archacon, Bordeaux and Paris to London, or the route may be reversed beyond Paris.—3rd Itinerary: Folkestone or Dover, Boulogne or Calais, Paris, Bordeaux, Archacon, Dax, Bayonne, Pau, Pierrefitte, Bagneres-de-Bigorre, Bagneres-de-Luchon, Toulouse, and Paris to London, or the route may be reversed beyond Paris. First Class, £11 7*s.* 3*d.*; Second Class, £8 9*s.* 8*d.* These tickets can be extended for three periods of fifteen days each on payment of 10 per cent. on the original fare for each extension.**

London to Paris and the Banks of the Loire.*—1st Itinerary: Folkestone or Dover, Boulogne or Calais, Paris, Angers (*viâ* Blois or Vendome or *viâ* Chartres, without stoppages on the Western Line), Guerande, Le Croisic, Saint Nazaire, Nantes, Angers, Saumur, Langesis, Loches, Chenonceaux, Tours, Amboise, Blois, Orleans, and Paris to London, or the route may be reversed beyond Paris. Available for forty-five days between London and Paris, and thirty days for the tour beyond Paris: First class, £8 3*s.* 9*d.*; Second Class, £6 0*s.* 4*d.*—2nd Itinerary: Folkestone or Dover, Boulogne or Calais, Paris, Langesis, Tours, Loches, Chenonceaux, Amboise, Blois, Orleans, and Paris to London, or the route may be reversed beyond Paris. Available for forty-five days between London and Paris, and fifteen days for the tour beyond Paris: First Class, £8 18*s.*; Second Class, £5 2*s.* 10*d.

(To be continued.)

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6663 births and 4207 deaths were registered during the week ending Aug. 3rd. The annual rate of mortality in these towns, which had increased in the seven preceding weeks from 15·4 to 22·5 per 1000, declined again last week to 20·7. In London the rate was equal to 21·4 per 1000, while it averaged 20·2 in the thirty-two provincial towns. The lowest rates in these towns were 10·0 in Halifax, 10·5 in Huddersfield, 11·8 in Brighton, 13·1 in Birkenhead, and 13·5 in Derby; the highest rates were 23·8 in Bolton and in Manchester, 24·0 in West Ham, 25·3 in Salford, 26·8 in Norwich, 28·0 in Wolverhampton, and 30·0 in Liverpool. The 4207 deaths in these towns included 1181 which were referred to the principal zymotic diseases, against 1137 and 1255 in the two preceding weeks; of these, 854 resulted from diarrhœa, 115 from measles, 76 from diphtheria, 53 from whooping-cough, 47 from scarlet fever, 33 from

"fever" (principally enteric), and 3 from small-pox. Among the large towns the lowest zymotic death-rates occurred in Halifax, Gateshead, Swansea, and Huddersfield, and the highest in Salford, Norwich, Liverpool, West Ham, and Leicester. The greatest mortality from measles occurred in Manchester, Blackburn, and West Ham; from scarlet fever in Huddersfield; from whooping-cough in Blackburn; and from diarrhœa in West Ham, Birmingham, Nottingham, Liverpool, Sheffield, Salford, Norwich, and Leicester. The mortality from fever showed no marked excess in any of the thirty-three large towns. The 76 deaths from diphtheria included 57 in London, 3 in Cardiff, 3 in West Ham, and 2 each in Bristol and Birmingham. Two fatal cases of small-pox were registered in Oldham, and 1 in London, but not one in any other of the thirty-three towns. There were 237 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 3rd inst., against 71, 89, and 199 at the end of the three preceding weeks; 60 new cases were admitted during the week, against 36, 23, and 115 in the three preceding weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2423, against 2241, 2267, and 2347 on the three preceding Saturdays; 247 new cases were admitted during the week, against 352, 220, and 249 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 193 and 185 in the two preceding weeks, further declined to 171 last week, and were 13 below the corrected average. The causes of 54, or 1·3 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Portsmouth, Cardiff, Norwich, Nottingham, and Salford, and in thirteen other smaller towns; the largest proportions of uncertified deaths were recorded in Birmingham, Sheffield, Bradford, Preston, and Leicester.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·2 and 18·3 per 1000 in the two preceding weeks, declined to 18·0 during the week ending Aug. 3rd, and was 2·7 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 13·7 in Edinburgh and 17·1 in Glasgow, to 21·4 in Dundee and 28·3 in Paisley. The 520 deaths in these towns included 55 which were referred to diarrhœa, 12 to whooping-cough, 7 to measles, 5 to "fever," 3 to scarlet fever, 2 to diphtheria, and not one to small-pox. In all, 84 deaths resulted from these principal zymotic diseases, against 91 and 92 in the two preceding weeks. These 84 deaths were equal to an annual rate of 2·9 per 1000, which was 2·9 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had been 48, 57, 72, 61 and 64 in the preceding five weeks, declined to 55 last week, and included 28 in Glasgow, 7 in Dundee, and 6 each in Paisley and in Greenock. The deaths from whooping-cough, which had declined from 18 to 7 in the three preceding weeks, rose again to 12 last week, and of these 5 occurred in Glasgow, 4 in Dundee, and 3 in Aberdeen. The fatal cases of measles, which had been 14, 8, and 11 in the three previous weeks, fell again to 7 last week. The 5 deaths from "fever" showed an increase of 2 over those in the preceding two weeks, and included 2 in Aberdeen, and 2 in Leith. The fatal cases of scarlet-fever, which had been 6, 6 and 3 in the three preceding weeks, were again 3 last week; and the deaths from diphtheria, which had been 1, 1, and 4 in the three preceding weeks, fell again to 2 last week. The deaths referred to diseases of the respiratory organs in these towns, which had been 57 and 59 in the two preceding weeks, further rose to 77 last week, and were 23 more than the number in the corresponding week of last year. The causes of all the deaths registered last week were duly certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 25·1 and 23·9 per 1000 in the two preceding weeks, rose again to 25·7 during the week ending Aug. 3rd. During the past five weeks of the current quarter the death-rate in the city has averaged 23·9 per 1000, the rate during the same period being 21·4 in London and 15·9 in Edinburgh. The 172 deaths registered in Dublin during the week under notice showed an increase of 12 over the number in the preceding week, and included 25 which were referred to the principal zymotic diseases, against 21 and 28 in the two preceding weeks; of these, 17 resulted from diarrhœa, 3 from small-pox, 2 from scarlet fever, 2 from whooping-cough, 1 from "fever," and not one from measles or diphtheria. These 25 deaths were equal to an annual rate of 3·7 per 1000, the zymotic death-rate during the same period being 6·6 in London and 1·1 in Edinburgh. The fatal cases of diarrhœa, which had increased from 10 to 24 in the three preceding weeks, fell again to 17 last week. The 2 deaths from whooping-cough showed a decrease of 1 from the number in the two previous weeks. Two deaths from scarlet fever were registered last week, but not any during the three preceding weeks. The 172 deaths in Dublin last week included 40 of infants under one year of age, and 31 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a decline from the numbers in the two previous weeks. Eight inquest cases and 8 deaths from violence were registered; and 59, or more than a third, of the deaths occurred in public institutions. The causes of 11, or more than 6 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

MOVEMENTS OF THE MEDICAL STAFF.

SURGEON-COLONEL TAYLOR having returned from special service with the Japanese Army has been appointed Principal Medical Officer of the South-Eastern District, and has assumed Charge at Dover. Brigade-Surgeon-Lieutenant-Colonel Hughes has taken over the Medical Charge of the Western District. Surgeon-Captain Boles has been appointed to Shoeburyness. Surgeon-Captain Holt has arrived in England on completion of a tour of service at the Cape. Surgeon-Major Barratt has arrived from India on sick leave and Surgeon-Captain Jennings from Egypt. Surgeon-Captains Rowan and Shine have re-embarked for Malta.

ARMY MEDICAL STAFF.

Surgeon-Captain John Francis S. Fowler, M.B., resigns his commission. The following Surgeon-Lieutenants to be Surgeon-Captains:—Harry A. Hinge; James G. McNaught, M.D.; Hubert A. Bray; Thomas McDermott, M.B.; Edward W. Slayter, M.B.; Hugh S. Thurston; Lancelot P. More, M.B.; Charles O'C. Hodgens; Arthur F. Tyrrell; Theophilus P. Jones, M.B.; George S. Walker, M.B.; William J. Smyth, M.D.; William D. Erskine, M.B.; Albert G. Thompson, M.B.; Alexander G. Chambers; George A. Moore, M.B.; Richard C. Lewis; Reginald F. E. Austin; Henry W. H. O'Reilly, M.B.; Nicholas Marder; Edgar H. Condon, M.B.; Gerald S. Mansfield, M.B.; Frederick G. Faichnie; and Harold W. K. Read. Surgeon-Major-General John B. Cole Reade, C.B., retired pay, late Army Medical Staff, to be Honorary Surgeon to the Queen, vice Deputy-Surgeon-General J. A. Bostock, C.B., half-pay, deceased.

NAVAL MEDICAL SERVICES.

The following appointments are announced:—Fleet-Surgeon J. K. Conway, M.D. to the Royal Marine Depôt, Walmer. Staff-Surgeons: J. E. Penn to the *Philomel*; H. E. Marsh to the *Cormorant* for Gibraltar Hospital; and J. C. Dow to the *Northampton*. Surgeons: J. F. Barter to the *Pembroke*, additional; and H. S. Archdall to the *Excellent*, additional; and F. Fedarb to the *Victory*, additional.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant John C. Wright having vacated his Volunteer Medical appointment, ceases to be an Officer of the Army Medical Reserve of Officers.

VOLUNTEER CORPS.

Artillery: 2nd Sussex: Surgeon-Captain H. Colgate, M.D., to be Surgeon-Major. The Tynemouth (Western Division, Royal Artillery): Lieutenant E. W. Bourne to be Captain. 16th Middlesex (London Irish): Edmond William St. Vincent Ryan, Gent., to be Surgeon-Lieutenant. *Rifle:* 1st Volunteer Battalion the Northumberland Fusiliers: Surgeon-Lieutenant D. Stewart to be Surgeon-Captain. 2nd Volunteer Battalion the Gordon Highlanders: Surgeon-Major C. C. Greig to be Surgeon-Lieutenant-Colonel. 1st Volunteer Battalion the King's (Shropshire Light

Infantry): George Arthur Tailer, Gent., to be Surgeon-Lieutenant.

PRACTICE IN THE OPEN FIELD IN SWITZERLAND.

On Sunday, the 28th ult., the Militärsanitätsverein of Zürich and the Samaritervereine of Aussersihl, Birmensdorf, and Wiedikon went through a series of evolutions on a considerable scale by way of practice in the event of war. Their field of operations was the rather difficult ground lying between the villages of Uitikon, Birmensdorf, and Urdorf, and the scorching sun that prevailed throughout the day put their service to a severe trial. By 7 A.M. 100 male and female members of all sections were on the ground, those of the Damensektionen (lady sections) being in great force. Under the command of First Lieutenant Dr. Kruker-Wegmann the *personnel* was distributed into three main bodies, each of which had its special head. The various subordinate posts were then filled up and the day's practice commenced. The principal Verbandsplatz (rendezvous for surgical treatment) was the Löwen estate, near Uitikon; another rendezvous of the kind was in a field a quarter of an hour's march distant, and the third Verbandsplatz was considered as the line of battle, in the vicinity of Urdorf, not far from the banks of the Reppisch. Those two latter Plätze were entrusted to the sanitary instructors, Dr. Erne and Dr. Jäger, and three surgeons, Dr. Eberle, Dr. Bryner, and Dr. Schmid, were on duty with the respective main bodies. Each of these latter took up its assigned position and went through the necessary preliminaries for the picking up, the transport, and the tendence of the wounded. Their stations were distinguished by flags, straw mats were in readiness, the "Lagerplätze" for the wounded were marked off in accordance with the severity of the wounds, all implements were *en évidence*, "Trägerketten" (chains of carriers) were formed, and then the first relays of wounded were brought in from the front. These were partly conveyed on litters, partly assisted on foot by attendants belonging to the Samaritervereine, according to the nature of their wounds, and were at once subjected to first treatment. This was performed on the Trappenverbandplatz, and shortly thereafter, by means of wagons, they were transported to the Hauptverbandplatz. So far everything went forward with precision and effect. At the Hauptverbandplatz the wagons as they came up were relieved of their wounded inmates and transferred to the Lagerstellen, where the required surgical and medical aid was performed with admirable punctuality and care.

ARMY MEDICAL SCHOOL AT NETLEY.

The seventieth or summer session of the Army Medical School, Netley, was brought to a termination on July 31st, when Brigade-Surgeon-Lieutenant-Colonel Notter announced the results of the examination, and Surgeon-General Sir Joseph Fayrer, K.C.S.I., presented the prizes to the successful surgeons on probation in the presence or a distinguished company. The following are the lists of those who were successful and who are recommended for commissions:—

BRITISH MEDICAL SERVICE.

	Combined Marks.		Combined Marks.
*L. F. Smith	5251	J. V. Forrest	3943
R. J. Blackham	4807	H. W. Grattan	3879
S. H. Fairrie	4361	F. E. Gunter	3541
G. T. K. Maurice	4245	J. H. Campbell	3461
R. Fawssett	4117	J. Grech	3443

* Gained the 2nd Montefiore Prize and the de Chaumont prize in Hygiene.

INDIAN MEDICAL SERVICE.

	Combined Marks.		Combined Marks.
*J. Stephenson	5921	R. F. Standage	4274
F. N. Windsor	5127	A. A. Gibbs	4066
†W. B. Turnbull	5068	F. L. Blenkinsop	3937
‡E. E. Waters	4847	A. Moore	3924
A. Leventon	4600	H. A. F. Knapton	3848
P. F. Chapman	4481	E. M. Illington	3829
A. Hooton	4467	T. E. Watson	3631
A. F. W. King	4421	C. G. Webster	3538

* Gained the Herbert Prize of £20, the Parkes' Memorial Medal, the Martin Memorial Medal, and the Prize in Pathology.
† Gained the 1st Montefiore Prize of 20 guineas and Bronze Medal.
‡ Gained the Maclean Prize for Clinical and Ward Work.

After distributing the prizes Sir Joseph Fayrer delivered an admirable address to the young officers, the text of which will be found on page 319 of our present issue. The proceedings were brought to a close by Surgeon-Major-General Giraud, Principal Medical Officer, Netley, who briefly thanked Sir Joseph Fayrer for his address. The company was subsequently entertained at luncheon in the Army Medical Staff mess.

THE FRENCH EXPEDITION IN MADAGASCAR.

As regards the health of the French force in Madagascar it is, as we have said, only to be expected that there will be a good deal of inefficiency from sickness. The troops are mostly young men and the climate hot and malarious, added to which the difficulties of transport and commissariat are considerable. Official news from the seat of operations is scarce. The French War Office and Admiralty have not escaped much adverse criticism, and there seems to have been a good deal of delay in getting the troops out of the unhealthy lowlands; but General Duchesne is, by all accounts, a man of military ability and energy. The success of the expedition will mainly turn on the troops being able to reach Antananarivo before the rains, which set in in October, for the amount of sickness will be seriously increased among troops on the march during the rainy season. The French have not had much experience of late of field service of this nature, and there is necessarily much to be learned which can only be ascertained from the results of local knowledge and experience. The French medical service is believed to be well organised and equipped, but a great strain on all departments is only to be expected, and every effort will now have to be made to feed the troops and avoid their exposure as much as possible during the rains. As far as is known at present the sick-rate amounts to about one-tenth of the force; the death-rate is low.

DEATH IN THE SERVICES.

We regret to have to announce the death of Surgeon-Major R. Lewins, M.D. (Retired List), A.M.S., on the 22nd ult. He joined the Army as assistant-surgeon in 1842, became surgeon in 1854, surgeon-major in 1866, and was placed on the Retired List in 1868. He served with the 63rd Regiment in the Crimea, including the battles of Alma, Balaclava, Inkerman, and siege of Sebastopol (medal with four clasps and Turkish medal); and with the expedition to the North of China in 1860 in charge of the hospital ship *Mauritius*, and he was also present at the capture of the Taku forts (medal).

Correspondence.

"Audi alteram partem."

OVER-OPERATING IN GYNÆCOLOGY.

To the Editors of THE LANCET.

SIRS,—As many of those who, like myself, listened with pleasure to the address with which Sir William Priestley opened the section of Obstetric Medicine and Gynæcology must have longed to (but of course could not then) discuss the burning questions dealt with in the address, I trust you will kindly find room in the columns of THE LANCET for some remarks thereon. In the first place let me ask, Is there, as Sir W. Priestley avers, over-operating in gynæcology? Is it not rather the fact that the surgery of diseases of the female pelvic organs has participated in the immense advance which has been made in recent years in the surgical treatment of disease in all other parts of the human frame? I feel sure the surgeons and obstetric physicians of this country will repudiate the words of Verneuil (which Sir W. Priestley quotes), in which he describes those who remove the ovaries or resect a slice of the œsophagus or stomach as indulging in a "sanguinary debauch!"

Sir W. Priestley states that a demand for less operating comes from across the Atlantic, and it is right that this should be so, as in America lacerations of the cervix uteri (no matter how slight) have so frequently been sewn up and the uterine appendages removed for neuroses that that discredit has been brought on these operations; but I altogether refuse to believe that in this country such indiscriminate and unnecessary operating is ever indulged in. Sir W. Priestley speaks "of the tendency in the present day of the obstetric physician to invade the domain of the surgeon in reference to what may be called external operations" (I presume he means operating on the uterus and its appendages per abdomen), and he goes on to say "the College of Physicians will look

askance at the claims for the Fellowship of those of its members whose chief work is avowedly surgical"—that is to say, that an obstetric physician may operate as much as he likes from below: remove fibroids, cure fistula, extirpate the uterus and ovaries per vaginam as hitherto, but once let his knife wander above the level of the mons veneris, even though he feels convinced he can save his patient more surely than by operating per vaginam, he puts himself outside the pale—the Fellowship of the College is not for such as he. This statement, Sirs, is such a serious one that in the interests of many present—and of all future—obstetric physicians, it surely calls for some definite ruling on the part of the authorities of the College. Of all the obstetric physicians and assistant obstetric physicians in London and the provinces there are, I believe, only five who do not perform abdominal section; of the five one was a very successful ovariotomist until the claims of an extensive midwifery practice caused him to cease doing these operations; two are prevented by the rules of the hospital to which they have become attached from continuing to perform abdominal sections; and the remaining two have, I believe, never so operated.

Sir W. Priestley suggests that those obstetric physicians who perform abdominal section should take the Fellowship of the College of Surgeons; but as one who possesses this valuable diploma I would respectfully point out to the president and council of the Royal College of Physicians that if they refuse the Fellowship to obstetric physicians who operate on the female pelvic organs per abdomen, and give it, as has been done for many years, to those who operate per vaginam, a grave injustice will be inflicted on many gentlemen who, on becoming obstetric physicians, looked forward to being made Fellows of their College in due course, provided they had done nothing derogatory to the dignity of the profession. By all means, if it is thought desirable, let it be a law that *in future* obstetric physicians who perform abdominal section shall not be eligible to become Fellows of the Royal College of Physicians, but in common justice let such law not be retrospective. Sir W. Priestley asks: "Are our antiseptic methods a sufficient safeguard against the possible contamination of lying-in patients by one who undertakes extensive surgical work in addition to obstetric practice?" I answer emphatically "Yes; and a man who has operated on a pyosalpinx or a suppurating ovarian tumour can, in a quarter of an hour, make it perfectly safe for him to attend a lying-in woman." Let me ask Sir W. Priestley this question, "Which is more likely to keep himself aseptic, the obstetric physician who performs abdominal section, and who from the very fact of doing these operations is imbued with the profound importance of keeping himself and all his paraphernalia aseptic, or he who does not so operate, but who may at any moment have to attend a midwifery case soon after examining a patient suffering from a stinking vaginal discharge?" The solution of the difficulty as to the obstetric physician operating Sir W. Priestley finds in "appointing a gynæcological surgeon to every hospital, who shall work in conjunction with the obstetric physician." If by this he means that every disease of the female peculiar to her sex (caruncles, polypi, vaginal cysts, uterine cancer, &c.) may be diagnosed by the physician, but must be handed over to the surgeon for operation, then I say that no obstetric physician of repute will hold office under such conditions; but if he means that the obstetric physician may (as at the Samaritan Hospital) do whatsoever operation he likes per vaginam, but must pass on all cases requiring abdominal section to the surgeon, then I say that in my humble opinion it is a case of "straining at a gnat and swallowing a camel." For my part I agree with what Dr. Herbert Spencer of University College Hospital said in a paper which he read before the Medical Society, that it would be a wise and gracious act on the part of the surgeons in every hospital to hand over to their obstetric colleagues all the cases of disease of the female generative organs requiring abdominal section; this has, I believe, been done for some years at King's College Hospital without friction between Dr. Playfair and his surgical colleagues. In conclusion, let me repeat now what I said in the discussion on Dr. Spencer's paper: "As the art of obstetrics is in great part surgical, those who practise that art should be called obstetric surgeons, that the qualification for holding such a post at a hospital should be the F.R.C.S. and not the F.R.C.P., and that the existing anomaly was the fault not of the College of Physicians, but of the College of Surgeons, which in years gone by refused to shelter under its wing the obstetrician." Apologising for the length of this letter, I am, Sirs, yours faithfully,

Harley-street, Aug. 3rd, 1895. WILLIAM DUNCAN.

"SPECIALISM IN MEDICINE."

To the Editors of THE LANCET.

SIRS,—The growth of knowledge has rendered "specialism" necessary. There was a time when the surgeon could compass all knowledge, not only of medicine and surgery, but also of hairdressing. Now only a Crichton could master the facts of the various divisions of medicine and surgery, including ophthalmology, gynæcology, dermatology, laryngology, otology, bacteriology, and the dozens of other "ologies" pertaining to medical science. I agree, however, with the leading article in THE LANCET of July 20th when it says that practical experience of general medicine is advisable and necessary before a special branch can be adequately dealt with. Unfortunately, it is becoming common for young men to study a subject with special industry before qualification with a view to the beginning of practice at once in that subject only. To start on a professional career in this manner is likely to result in practice of a one-sided and narrow character. These infant specialists have no doubt studied the various branches of medicine in which they are examined for their diplomas. But even this moderate knowledge of general medicine will be below that of the average newly qualified man on account of the undue attention given to their selected special subject. Starting practice, then, with even less than the average stock of general knowledge, and looking at everything with the coloured glasses of their speciality, how defective must be their apprehension and treatment of disease. On the other hand, he who has devoted some years of his life to general practice will see the inter-connexion of the general and special diseases, and of the latter with each other, without which knowledge no special branch can be satisfactorily practised. Nothing else can supply this training and insight, and the want of it gives a bias and narrowness that is the cause of most of the abuse of specialism in those that take it up from their medical birth. Otherwise it is liable to abuse as much, and no more, than the practise of general medicine. It would be well if no one started in special practice without having had ten years' experience in general work. I am, Sirs, yours truly,

July 31st, 1895. A SPECIALIST.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Action against a Surgeon.

AT the present Warwickshire Assizes an action was brought by Charles Stevenson against Dr. Eagar of Stourbridge to recover damages for alleged negligence. The plaintiff had an accident which resulted in a dislocated shoulder, which it was alleged had not been properly attended to. There was skilled professional evidence on both sides as usual. It was admitted that the plaintiff was subject to epileptic attacks, and the defence asserted that any subsequent injury found arose from this cause. The verdict was given for the defendant, Dr. Eagar, who may be congratulated upon having cleared himself from the imputations made upon his character and his skill.

Bank Holiday.

The exodus of a large number of inhabitants of the large towns at this season of the year is growing to an enormous degree. In this town the present time has broken record in the enormous number who have availed themselves of cheap excursions for short periods. And yet the advantages must be mixed with some alloy of risk to health. Packed in close railway carriages, deprived of natural rest by night travelling, and subject to all the inconveniences and dangers of inclement weather, it may well be remarked that these English people take their pleasure sadly. The consequences follow these disturbed conditions of ordinary life in disorders of nutrition and exposure to wet and cold. If the demand for excitement and change continues at the same rate of progress some alteration must be made in the usual railway arrangements, or some measures taken to make the holidays less universal. Appointing different seasons to various localities

as bank holidays would obviate much of the disorganisation which now exists.

The Hospital Saturday Fund.

Already the administrators of this fund have begun to make arrangements and anticipate the wants of the coming year 1896. A steady increase of the amount asked for year by year has taken place, and now a penny a week from the workmen of numberless establishments is sought for. In view of all the advantages offered by the Hospital Saturday Fund—admission to the convalescent homes, nurses in case of sickness at home, and surgical appliances and instruments—this cannot be considered too much to ask for. Nor does this refer to the contributions of women or boys employed at the various workshops and manufactories. The amount of £13,500 is put down as the requirements of the succeeding year, and active efforts will be made to obtain it.

Aug. 6th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Ancoats Hospital.

THE annual meeting was held on Wednesday last, Sir W. H. Houldsworth, M.P., occupying the chair. Founded in 1828, and containing something over 100 beds, it has done much good work in a poor neighbourhood. But the report, as is too often the case, speaks of increasing work with an increasing adverse balance at the bank. The total receipts for the year were £4174 19*s.* 2*d.* The expenditure was £5347 1*s.* 11*d.*, leaving a deficit of £1172 2*s.* 9*d.* During the past two years the adverse balance had increased by £262 16*s.* 4*d.* The medical report showed increasing demands on the out-patient department. Sir W. Houldsworth mentioned that a legacy of £600 had been left to the hospital by the widow of the late Bishop Fraser. He said he believed more hospital accommodation would have to be provided in Manchester, and "he was convinced that the future solution of the question would not be the extension of any one hospital, but it would be the establishment of local hospitals in various parts of the city close to the people who required them." This opens such questions as the increased cost of administration, with a falling-off in funds, and the provision of skilled physicians and surgeons, and the further question of their position and status. Are they to be what is called "pure" physicians and "pure" surgeons, and, if so, are they to live on their professional incomes, or will the staffs be formed from the neighbouring general practitioners?

Manchester Grammar School.

This ancient school had its speech-day on the 31st ult. in the Free Trade Hall. Mr. King, the high master, presided. He said that Sir Frank Lockwood, the chief name on their list of honours for this year, had promised to attend and give an address, but was unable to do so. There was a long list of old pupils who had achieved distinction, and the honour list showed that the school had this year obtained eight open and three close scholarships at Oxford and Cambridge. "The honours won by former scholars of the school afforded fresh evidence, if evidence were needed, that from an industrial centre like Manchester they could send some to tread the paths of literature and scholarship. E. T. Whittaker had won the Sheepshanks Astronomical Exhibition at Cambridge, and had also been bracketed second in the mathematical tripos. This was the third time in the last five years that the Second Wrangler had been an old Mancunian ..... No fewer than ten scholarships at Owens College had been won by grammar-school boys." In addition to these, five science, six commercial, and three art scholarships and exhibitions offered by the Lancashire County Council and the Manchester Corporation had been won by grammar-school boys.

Manchester Museum, Owens College.

Some short time since the Museum Committee memorialised the Corporation for aid in its maintenance, there being an annual deficit of £1200. The Museum was visited on May 2nd by the Free Libraries Committee, and they were much impressed with its admirable arrangement and great value as an educational agent. The committee considers this claim reasonable, but as the Museum is open to, and used by, many who are neither residents nor ratepayers of Manchester, it thinks it may be expedient for the Museum authorities to invite the co-öperation of other neighbouring corporations and county and district councils. The committee recommend a grant of £400 a year to be made out of the public libraries rate, on condition that £800 a year be obtained from the Lancashire and Cheshire County Councils and from local district councils. The report of the committee is to be considered at the City Council to-morrow, where it is to be hoped the memorial will be favourably considered.

Child Paupers and Potato-pie.

This subject still affords matter for discussion among the Salford guardians, one of whom at their last meeting reported a diminution in the thickness of the crust from 3 in. to 4 in. to three-quarters of an inch, "which was a great improvement." Though fit for children aged from nine to fifteen, he agreed with the medical officer that it was unfit for those aged from three to five. The chairman thought paste three-quarters of an inch thick was not fit for young children, with which opinion most of us would agree. It was not stated that they were to have some other delicacy instead of it. The medical officer is said to be dissatisfied still with the pastry, which he may well be, if it is to be the food of children aged from three to five.

Aug. 7th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Edinburgh University Graduation Ceremonial.

THE graduation ceremonial in medicine at Edinburgh took place last week. The degree of Doctor of Laws was conferred upon two medical men. One of these was Dr. Thomas Edmonstone Charles of Rome; the other Dr. S. Weir-Mitchell of Philadelphia. Both these gentlemen were presented in appropriate speeches to the Vice-Chancellor by Sir Ludovic Grant, who pointed out that they might serve as a bright example and encouragement to those who were receiving degrees that day at the termination of a successful student career. Thereafter a large number of Doctors of Medicine and Bachelors of Medicine were introduced and officially capped. Professor Greenfield delivered the address to the graduates, congratulating them upon their achievements and urging upon them to do their utmost to promote the renown and success of the University and to increase its material prosperity. He alluded to the fact that in spite of the noble buildings the part devoted to pathology had not been completed and was devoid of the accommodation and appliances essential to the most important part of pathological research. From this the lecturer turned to matters affecting the graduates themselves, and concluded by an eloquent exposition of the proper relations that should exist between a medical man and his patients.

New Hospital Site for Edinburgh.

The Leith Corporation have had a request from the Edinburgh authorities for ground on which it is proposed to erect a temporary hospital in room of the hospital which is to be removed from the Queen's Park. Some technical difficulty regarding the ownership of the land having arisen the Leith authorities have decided to delay consideration of it.

The School of Medicine of the Edinburgh Royal Colleges.

As was mentioned in THE LANCET some weeks ago a scheme was on foot to more closely affiliate the extra-mural medical school in Edinburgh to the Royal Colleges. This, it is understood, has now passed its final stage and been accepted by the colleges. The governing body is to consist of fifteen members, five of whom are elected by the Royal College of Physicians, the Royal College of Surgeons, and the Association of Lecturers respectively. It is to exercise supervising and disciplinary functions. The school is to be called the Medical School of the Royal Colleges.

Aug. 6th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Brutal Outrage in Belfast.

A BRUTAL case, such as rarely occurs in Ireland, has occasioned a good deal of comment in Belfast. It seems that on Saturday, July 20th, a woman was found lying in a field on the Shore-road; she was thought to be the worse for

drink and was taken to the police-office where she was kept for eleven hours in the cells and was then seen by one of the police surgeons who sent her on an outside car to the Union Infirmary. She was at this time very weak and almost senseless, and died on the evening of the day she was removed to the infirmary. It was found after death that she had received several wounds of the vagina, inflicted apparently by some instrument, and this had occasioned external bleeding and extensive subperitoneal hæmorrhage, so that she died from shock and hæmorrhage the result of brutal violence. The coroner at the inquest having commented on the case, the jury returned a verdict that she had died from shock and hæmorrhage the result of injuries to the genital organs forcibly caused by some persons or person unknown, and they strongly recommended to the responsible authorities (1) that a female attendant should be placed in the police cells; (2) that a proper room should be provided for prisoners in a sick or weak condition; (3) that the cells should be properly constructed; (4) that means should be provided for conveying sick prisoners to the hospital other than by an outside car; also that the police did everything possible for the deceased woman while under their charge; and that the coroner be requested to bring the foregoing recommendations under the notice of the Police authorities. No person has, up to the present, been arrested as the perpetrator of this abominable crime.

High Death-rate in Belfast.

At a meeting of the Belfast City Corporation, held on Aug. 1st, the report presented by the medical officer of health showed that the health of the city of Belfast was in a most unsatisfactory state, the death-rate for the four weeks ending July 20th being 28·2, while in the corresponding week of last year it was only 20·7. The deaths from all causes are very much in excess of what they should be at this season of the year. The deaths from zymotic diseases are 50 per cent. more, and those from chest affections 30 per cent. more than in the corresponding period of last year. The deaths from typhoid fever and diarrhœa and the infantile mortality have all increased. Various reasons may be assigned for the present very high death-rate (greater than Dublin city, Cork, Limerick, or Londonderry), such as the late wet and changeable weather; but it is quite evident that there must be some serious defective sanitary conditions in the city of Belfast to account for such an abnormally high death-rate. How is it that the death-rate of London keeps so low, and as years go past is actually getting lower? The present high death-rate of Belfast demands the most serious attention.

Improvements at the Belfast Royal Hospital.

At a special meeting of the Corporation of the Belfast Royal Hospital, held on Aug. 5th, it was decided to make some very necessary improvements, which will cost probably about £1500. It is contemplated first, to add to the present sanitary block so as to provide space for additional baths. These would add greatly to the comfort of the patients as, at present, their only baths are situated on the ground floor. The next improvement was the enlargement and rearrangement of the present theatre, and the addition to it of an adjoining room. For some time the staff have felt themselves very much hampered, particularly during the time students are attending, by the small size of the operating theatre. In addition to its proposed extension it is to be thoroughly refurnished with every appliance which can render it aseptic and in accordance with those rigid requirements now demanded by modern surgery. Instead of the present isolation wards it is proposed to erect a long range of one-storied buildings, with a large ward for males and one for females, the kitchen, sculleries, and pantries being in the centre, and at one end a mortuary, post-mortem room, and other required conveniences.

The Belfast Dispensary Committee.

At the monthly meeting of this committee, held on Aug. 5th, Mr. Isaac Dundee was unanimously appointed medical officer of Carnmoney dispensary district in place of Mr. J. Dundee (resigned).

Queen's College, Belfast.

The following is the list of prizemen at the close of the summer session:—Botany: senior, W. A. Price; junior, John Adams, William M. Hunter, and Marriott R. Rowan, B.A.. Practical Chemistry: Isabel Addey Tate and William R. Beatty (equal), Arthur B. M'Master, and Galbraith H. Grills. Medical Juris-prudence: William J. Cousins. Systematic Pathology: David Fleck. Practical Pharmacy: James E. Whyte.

The Battle of the Clubs at Cork.

One of the local newspapers that had persistently supported the clubs in opposition to the demands of the Cork profession published a very ominous leading article last Thursday. It stated that as a vacancy for a medical officer had occurred owing to the death of Dr. O'Sullivan, the opportunity ought to be availed of by the clubs to see whether they could not come to terms with the profession, and a hope was expressed that the doctors would fairly meet the advances of the clubs. An admission was also made that the refusal of the Cork doctors to meet the imported medical men in consultation had proved very inconvenient in club circles. I can only say that all along the Cork profession simply demanded that persons requiring medical services who were in a position to pay should pay according to their means, and any proposal from the clubs based on that principle will receive every consideration.

Accusations against Union Infirmaries.

A shocking state of affairs was revealed at the last meeting of the Nenagh guardians. One of the guardians (Mr. O'Brien) stated, "I knew a respectable man to die at 9 o'clock at night on the infirmary floor and remain there till morning. That was not the only case of the kind. Another man fell down stairs and broke his neck. It is horrible to think of the treatment to which the infirmary patients have been subjected." The medical officer (Dr. Minnitt) endorsed that statement by saying patients "have been repeatedly picked up off the floors dead or dying." He added that he reported the fact, but no attention had been paid to his report. Those statements seemed to come by surprise on the guardians, and more than one stated that they had not previously been made aware of such a sad condition of affairs. As a result of the discussion it was decided to appoint paid nurses.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Italy and the British Medical Association.

FOR the moment Italian medicine finds its centre of gravity on the banks of the Thames, so full are her journals, professional and lay, of the cordial reception vouchsafed her representatives there, and more particularly of the impression created by Dr. Maragliano's paper, "Sulla Cura della Tubercolosi Col Siero Anti-tubercolare." From his chair of Clinical Medicine in the University of Genoa, and still more from his post of "*privat-docent* in General Pathology and Therapeutics with official bearing on Maladies of the Organs of Respiration," Dr. Maragliano has for some time set forth his views on the serotherapy of tuberculosis to an ever-widening circle of adherents both within and beyond the Genoese school. He has even had to appeal to the lay press to be relieved of the incessant requests for supplies of his serum on the part of votaries eager to put it in practice in the localities they belong to. But not till the 1st inst., when his paper was read at the Association meeting, has he developed his positions so broadly, so deeply, and with so determinate a bearing on cure. To his compatriots these positions are now for the first time accessible in the form finally conceived and set forth by their author, and while, in summarised fashion, they have been rend with avidity in the lay journals enterprising enough to have them specially "wired" from London, they are to-day being mastered throughout the length and breadth of medical Italy, as given in the advanced proofs with which the *Riforma Medica* of Naples and some of the non-professional organs have been privileged. Italians I have always found extremely gratified by British appreciation, and when from the marked respect with which Professor Maragliano's paper was received they proceed to take note of the hearty "fratellanza" with which their compatriots, Dr. Angelo Mosso of Turin, or Dr. Salvatore Otolenglis of Siena (for instance), were welcomed, they recall the not less friendly reception accorded at past Association meetings to their lamented Pacchiotti and their happily still active Professor Celli of Rome, and are grateful for England's generous requital of the hospitality shown her sons at Padua and Bologna in years when Italy led the van of medicine in theory and practice.

Italian Hospitals.

One impression Italians never fail to bring back from such visits to the British Isles, and that is the vast superiority of the hospitals, say, in London or in Edinburgh or in Dublin (leaving those of the provinces apart) to anything they have at home or have witnessed even in Germany or France. On this subject Dr. Celli, Professor of Hygiene and *privat-docent* in sanitary police in the University of Rome, was particularly emphatic, after his intervention at the great International Congress of Hygiene and Demography held in London in 1891. THE LANCET gave prominence to his impressions at the time, but it was in Italy that they brought forth their appropriate fruit, and are still continuing beneficially to fructify. It is not too much to say that not a little of the hospital reform quietly and steadily being carried out in Italy is due to the lessons inculcated by Dr. Celli and his fellow visitors on their countrymen—reform at present revolutionising such great institutions as the Santa Maria Nuova at Florence and leading to the extended and improved accommodation, introduced, for instance, into the Ospedale Maggiore of Milan. In the former of these the abuses and defects, born of mediæval tradition, had come to be a public scandal, and are now being removed on a scale and with an energy sufficient to justify future notice in THE LANCET. Meanwhile I may in this connexion refer to the new Ospedale Umberto I., now advancing to completion at Monza, near the Royal residence, as an example of what kingly munificence, aiding modern medical science and architectural art, can accomplish. Covering an area of 44,000 square metres, and consisting of nine pavilions, it will include every appurtenance and appointment demanded by the most varied and refined methods, clinical and scientific, known to medicine and its practitioners.

Aug. 5th.

RUSSIA.

(FROM OUR OWN CORRESPONDENT.)

The Fire at Brest-Litofsk.

This summer has been one of the hottest of recent years in Russia. Hot weather is, however, not always an unmixed blessing in this country. One of the worst evils it entails is is the prevalence of fires in the forests and the destruction of villages and towns. An unusually large number of fires have occurred already this year. Several towns of considerable size have been almost entirely destroyed. The largest was the town of Brest-Litofsk on the borders of Poland, which contained 40,000 inhabitants, and which was burnt to the ground some eight weeks ago. Details of the disaster still occasionally appear in the press, and from these it appears that two hospitals, the Municipal and the Jewish, were destroyed by the flames; from the former all the patients were fortunately able to escape, but thirty-two of the patients in the Jewish Hospital were more or less severely burnt, some fatally.

Forthcoming Exhibition at Nijni Novgorod.

The exhibition to be held in Nijni Novgorod next year is, if one may believe report, to be on a very extensive scale. A great rush of visitors is anticipated and a large number of temporary hotels are being run up round the exhibition grounds to accommodate them. The authorities are therefore to be congratulated on having appointed a Special Commission to look after the sanitary arrangements of the exhibition and all connected with it. In addition to the local authorities who become members of the Commission the Government have appointed Professor Anrep as their representative. Professor Anrep is already well known in Nijni, as he was sent there by the Government in 1892 to take the necessary measures to meet the cholera epidemic, which was then rapidly spreading up the Volga.

Foreign Deputations in St. Petersburg.

A series of foreign missions or deputations have this summer visited St. Petersburg. The object of all has been the same, to offer congratulations to the Emperor Nicholas on his marriage and accession to the throne, and to pay a tribute of respect and sorrow at the grave of the late Emperor. The first to arrive was the Armenian mission, a purely ecclesiastical group, with the Catholicos Mekertich I. at its head. The Bulgarian deputation had also an ecclesiastic for its leading member—the Metropolitan Clement—but the rest of the members, seven in number, were laymen, and among them, senior to the others as regards actual years, was Dr. Mollog, a physician. The most picturesque deputation has been that from Abyssinia with Prince Damto at its head. There is no medical member of this deputation, as might have been expected; but among the followers of Colonel Leontief, whose (so-called) scientific expedition to Abyssinia has returned with the deputation, is the Archimandrite Ephraim, under which name is hidden the identity of a former medical practitioner, who was known to the world as Dr. Tsviétaief. He graduated Doctor of Medicine in the University of Moscow in 1859, and for many years practised his profession in Romanof-Borisogliebsk until some seven or eight years ago, when he joined the "black clergy"—i.e., became a monk.

The Cholera in Volhynia.

Volhynia continues to be the only Government in which cholera is present. The latest returns are as follows: between June 11th and 17th, 34 cases and 15 deaths; between June 18th and 24th, 59 cases and 10 deaths. The dates are according to the Old Style.

St. Petersburg, July 14th (26th).

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

A Higher Grade of Educational Qualifications of Medical Students.

THE State Board of Medical Examiners of New York are deeply impressed with the inadequate knowledge of many of the candidates for licences who come before them. This board of examiners can endorse as sufficient to practise the licenses that have been issued by other State boards of medical examiners, provided their standards are not lower than those of the State of New York; and the sifting of standards has so shown up the altogether too low measure of acquirement that the board has adopted a resolution declaring that the interests of the public would be greatly benefited by requiring a higher grade of preliminary study before entering upon that of medicine at all. They recommend that the standard be so advanced that no student should enter a degree-granting medical school after 1897 who had not completed a full high-school course or its equivalent. The board finds that the standard is much lower in medicine than in any other profession; and it is a happy sign of the times that the public is waking up to the need of thorough training of the men to whom the care of the health of the people is to be entrusted.

The Estate of Dr. Oliver Wendell Holmes.

Dr. Oliver Wendell Holmes, the poet-physician, after really enjoying most of the truly desirable things in life, left an estate which is valued at $112,000. Much of it was the fruit of his gifted pen.

Exclusion of American Medical Inspectors.

It is reported that the Continental Powers will probably no longer allow the United States to place medical inspectors at their principal seaports to prevent the embarkation of emigrants infected with cholera bound to American ports. Such action of European Governments will prove a serious exposure of the United States to an invasion of cholera in the event of the appearance of that pestilence in Europe. The delegates from the United States Government to the International Sanitary Conference of Paris last year endeavoured to secure an international agreement on this subject. The conference, however, while admitting the importance of such an agreement, regarded it as not coming within the special objects of that conference, and advised that it be made the subject of another conference called for that purpose. Before the Paris Conference closed the United States delegates took the preliminary steps towards the calling of such convention.

Regulations of Attendance at Public Schools after Exposure to Infection.

The Pennsylvania board of health has just issued a set of instructions as to the time when teachers and pupils who have been exposed to the infective diseases may safely be admitted again to schools providing they continue in good health and have taken proper methods for disinfection. For

diphtheria after twelve days; small-pox, eighteen; measles, eighteen; chicken-pox, eighteen; mumps, twenty-four; and whooping-cough, twenty-one. Adults may be admitted at once if they disinfect their clothes and persons.

Density of Population in New York.

The recent census shows that in the last twenty-five years the population of the city has increased from 900.000 to 1.900.000. One million people, in large part formed of the poor and ignorant emigrants from Europe, have been added to our population. A certain acre near Essex and Stanton-streets having 622 people on it is the most crowded of any city in the world; but this maximum is nearly maintained for a whole square mile, including parts of wards, numbered 7, 10, 13. 11, 14, and 17. In this square mile there are gathered together 370.000 people, mostly aliens, whilst the enumeration of children under five years of age is 53.000. From the census returns giving the number of children of school age—that is, from five to fourteen years included—the estimated number in this square mile is 63.000. 50.000 should be in the primary schools, but there are in this whole square mile but 27.000 sittings in the primary schools, so that there are some 20.000 children more than can be received in the schools of this district.

July 30th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Election of the Staff of the Melbourne Hospital.

ON Aug. 15th the subscribers to the Melbourne Hospital will elect the honorary staff to hold office for the next four years, and the coming election is the great topic of the hour in Melbourne, exciting more interest than a Parliamentary contest. Cards and circulars from the competing candidates are scattered broadcast, and, go where you may, you are sure to be buttonholed and asked to vote and use your influence for some candidate or other, or asked your opinion as to so-and-so's chances of success. Most of the candidates have large election committees, who make it their business to see that every voter (of whom there are between 4000 and 5000) is interviewed on behalf of their candidate. All kinds of influences are brought to bear to secure votes. Nationality, religious creed, social position, everything but a man's professional qualification or fitness for the position or past services is a reason for giving him a vote. The whole business is a scandal which it seems hopeless to reform. The present and previous staff have supported measures to alter the system of election, but nothing is done, and every election is worse than the preceding.

The Macleay Bequest to the Sydney University.

The late Sir William Macleay left a sum of £12.000 to the Sydney University to found a chair in Bacteriology. The bequest was subject to certain conditions, one of which was that every student before being admitted to a science or medical degree must have attended a six months' course of bacteriology. The Senate of the University accepted the bequest, but difficulty arose as to the interpretation of a "science degree" and of "a course of bacteriology," and a friendly suit in equity was instituted, and MR. Justice Owen construed "a science degree" to mean a degree in biological science, and "the course of bacteriology" to be an amount of lectures or teaching in bacteriology extending over such academic term as might from time to time be prescribed by the Senate. That body now finds that to carry out the bequest as thus construed entails the establishment of a laboratory and museum, and a large outlay which the University at present is unable to meet. A committee was appointed to investigate the question, and has reported that the Senate should sanction the return of the bequest to the executors of Sir W. Macleay's will. The money will then revert to the Linnæan Society to maintain a bacteriologist who will carry on bacteriological investigations and also take pupils.

The Maintenance of the Sick Poor in Sydney.

The report of the Medical Adviser to the Government, Professor Anderson Stuart, on the maintenance of the sick poor during 1894 has been presented to Parliament. The total number of applicants for relief at the King-street Hospital Admission Depôt was 8162, or 303 more than in 1894. Of these, 1677 received orders for the Coast Hospital, 668 for the Sydney Hospital, 693 for the Prince Alfred Hospital, 244 for the Moorcliff Ophthalmic Hospital, and 65 for the Carrington Convalescent Hospital; whilst 2308 were recommended for admission to the asylums for the infirm and destitute, 1976 received orders for outdoor treatment, 132 for trusses, and 399 were refused relief, not being fit subjects for aid from votes granted by Parliament. In addition to the patients dealt with personally at the Hospital Admission Depôt, 972 were admitted under Government orders to the Coast and Metropolitan Hospitals, and paid for in the latter institutions at the usual maintenance rate. These include patients found by the police and taken direct to the hospital, urgent cases of fever and other diseases reported at the Medical Adviser's office by registered medical practitioners and transfers from Government institutions and country hospitals for special treatment. The total number of applications for hospital treatment during the year was, therefore, 9134. The total cost of the patients in four of the hospitals was £13.171 9*s.* 4*d.*, apportioned as follows:—Prince Alfred Hospital, £4991 13*s.*; Sydney Hospital, £4095 12*s.* 10*d.*; Moorcliff Ophthalmic Hospital, £3045 10*s.* 6*d.*; and Carrington Convalescent Hospital, £1038 13*s.* Professor Anderson Stuart again calls attention to the necessity for a hospital for phthisical patients, especially for those in the incurable stages of the disease. He also refers to the want of an organisation for providing for the sick poor at their homes, as well as to the necessity of legislation to prevent the influx of persons who from the time of their arrival here become a charge on the State.

July 6th.

Obituary.

SIR JOHN TOMES, F.R.C.S. ENG., F.R.S., L.D.S.

WITH great regret we announce the death, in his eighty-first year, of Sir John Tomes, which took place at Caterham on Monday, July 29th. To his literary and political exertions dental surgery mainly owes its present position; indeed, he may fittingly be described as the Bismarck of his profession. He was the son of John Tomes of Weston-on-Avon, the Tomes family having settled near there and been in possession of a small property at Marston Sicca since the reign of Richard II. It was at Marston Sicca that Mrs. Lane, a kinswoman of the John Tomes of that time, assisted Charles II. to escape after the battle of Worcester by giving him shelter. Owing, however, to the entail being cut off, Sir John Tomes' father, though the eldest son, did not inherit the property, and it was always a source of great regret to Sir John Tomes that the old house had passed out of the direct line to an uncle of his. His father was a man of marked ability and artistic talent as well as a great reader, especially of metaphysical works, and was not until late in life in a position to do more than educate his sons, so that Sir John Tomes was wholly dependent upon his own exertions after his student days. He was the first member of his family to take to medicine, the study of which he began by being apprenticed to a general practitioner. In the year 1836 he came to London and entered at the Middlesex Hospital and King's College, and was a fellow student of Sir William Bowman. In 1839 and 1840 he acted as house surgeon to the Middlesex Hospital, and during this period he invented forceps adapted to the necks of the different teeth. It was, perhaps, this that determined his subsequent devotion to dental surgery. In 1842 he was appointed dental surgeon to King's College, but this post he subsequently resigned, and was appointed to a similar one at Middlesex Hospital. In 1845 he invented a machine for copying in ivory irregular curved surfaces, and was awarded the gold medal of the Society of Arts. This machine was intended to be applied to carve bone to correspond to a cast of the mouth. When, in 1846, Dr. Morton, a dentist in Boston, Mass., applied ether as an anæsthetic Sir John Tomes immediately took up the question, and administered sulphuric ether, and sometimes chloric ether, in the out-patient department for dental operations. In his diary on Jan. 14th, 1847, the following note occurs: "Gave ether to Arnott's case of lithotomy. Eight minutes and insensibility came; the operation was then commenced and lasted twelve minutes." And on Feb. 23rd: "Gave

ether to eight patients for operation with great success—Earl of Cadogan (a governor of the hospital) and many others present."

About 1845 to 1847 he delivered a series of lectures on Dental Physiology and Surgery, and these on being published at once brought him into note. In 1859 "A System of Dental Surgery" was produced, and it may truly be said that with the appearance of this volume dental surgery was placed on a scientific basis. He was one of the leading spirits of the educational movement which finally resulted in the establishment of a board of examiners in dental surgery by the Royal College of Surgeons of England and the granting of a diploma in dental surgery, and with Mr. T. Bell and Mr. A. Rogers he formed the dental portion of the first examining board. The curriculum established by the College mainly through his suggestions has worked so well that but few material alterations have been found necessary up to the present time, although the modes of examination have been considerably amplified. Sir John Tomes was amongst the founders of the Odontological Society, and twice occupied the office of President. He was an active supporter of the Dental Hospital of London from the first, and, in addition to occupying a position on its staff as dental surgeon, he filled the office of lecturer in dental physiology and surgery. But valuable as his political work thus had been, it was to a great measure overshadowed by the important part he played in 1878, when, with Mr. J. Smith Turner, he was mainly instrumental in obtaining the Dentist Act, and so placing the dental profession on a sound social footing. The essential clauses of the Act were prepared under his guidance, and mainly by his influence was opposition overcome until it became law. In the formation of the British Dental Association he took an active part, and occupied the presidential chair at the first annual meeting, which was held in London during the year 1881. As a scientific anatomist Sir John Tomes earned great distinction, and by his researches dental anatomy was largely enriched. By the discovery of the protoplasmic nature of the dentinal fibril the commencement of the proper understanding of the nature of denture commenced, and this must always rank as his greatest contribution to dental science. With the late Mr. C. de Morgan he carried on researches into the minute anatomy of bone, and these were published in a paper contributed to the Transactions of the Royal Society. His contributions to the study of comparative anatomy were many, including amongst others the following: "On the Structure of the Teeth, the Vascularity of those Organs, and their Relations to Bone"; "Structure of the Dental Tissues of the Order Rodentia"; and "On Dental Tissues of Marsupialia." How great a loss the dental profession has sustained it would be difficult to say, and although he had retired from active practice for some years, nevertheless, in all subjects his opinions were eagerly sought for by those in whose hands the future of dental progress mainly lies. Only last year Sir John Tomes celebrated his golden wedding, and the occasion was commemorated by the members of his profession founding a prize bearing his name, which has been placed under the custodianship of the Royal College of Surgeons of England.

JOHN THOMAS REESE, L.F.P.S. GLASG.

WE regret to announce the death of Mr. John Thomas Reese, surgeon, of Ystradgynlais, in the Swansea Valley, which occurred on Sunday, July 21st. Mr. Reese was on his way, which lay across a mountain, to see a patient, when he was struck by lightning and with his horse instantly killed. Mr. Reese had practised in the neighbourhood for eighteen years and was universally popular. He was buried in the presence of some 3000 friends on Wednesday, July 24th.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. S. Moos, Professor of Otology in Heidelberg.—Dr. Kiener, Professor of Pathological Anatomy in Montpellier.—Dr. Baillon, Professor of Medical Natural History in the Paris Faculty of Medicine.—Dr. Albert Nagel, Professor of Ophthalmology in Tübingen, quite unexpectedly, in his sixty-third year. He was born in Dantzig, and was one of the first pupils of Albrecht von Graefe.—Professor Moos, the Otologist at Heidelberg, at the age of sixty-four.

THE BRITISH MEDICAL ASSOCIATION.

MEETING IN LONDON.

AT the end of the general meeting on Thursday last Sir J. Russell Reynolds desired the members to stay for the consideration of the proposed memorial to the late Professor Huxley, and introduced Professor Michael Foster, Secretary of the Royal Society, who stated that steps were being taken to raise a memorial to Professor Huxley on as broad a basis as possible, but that, owing to the lateness of the season, it had been thought desirable to defer active steps until after the autumn recess. No attempt had been made to determine in any way the nature of the memorial, which must depend upon the amount received, but a provisional committee had been formed, and he trusted that the medical profession of which Professor Huxley was a member, which he loved and which whenever he could he helped, would desire to join in this effort to perpetuate the memory of so great a man. Sir John Lubbock had consented to act as treasurer to the committee and subscriptions might be sent to him, and Professor G. B. Howes, of the Royal College of Science, South Kensington, as one of the secretaries to the committee, would be happy to receive names and answer inquiries. Dr. Ward Cousins, the President of the Council, said he felt sure that the whole of the profession would respond warmly to the effort to produce an adequate memorial.

The annual dinner of the Association, which was held at Queen's Hall, Langham-place, on Aug. 1st, was a decided success. Covers were laid for 700 guests, not only the floor of the hall but the grand tier also being crowded with tables prettily decorated with roses and evergreens. While the guests were assembling the string band of the Royal Engineers played a selection of music. Sir J. Russell Reynolds presided, and among some seventy-five invited guests were the Lord Chancellor, Lord Herschell, the Lord Chief Justice, Mr Christopher Heath (President of the Royal College of Surgeons), Professor Stokvis (Amsterdam), Dr. W. W. Keen (New York), Sir Wm. Flower, Professor Bowditch (Boston), Professor Mosso (Turin), and Dr. Fraenkel (Berlin). The speeches were almost as brief as the grace, *Benedictus Benedicat*. "The Queen" and "The Royal Family" having been honoured, the President proposed "Our Guests," and Lord Halsbury, in responding, by a *lapsus linguæ* created some merriment in which he heartily joined, although it was against himself. "I am yoked," said the Lord Chancellor, "with four other 'distinguished' guests." Professor Stokvis followed with a happily conceived speech, full of thanks to the Association and praises of the medical profession in England. Dr. Keen convulsed the assembly by describing a case of heredity in which the succeeding generations of a man who had undergone an operation where Murphy's button had been used produced a child "with a long row of buttons ....." The conclusion of the sentence was lost in the burst of laughter which followed. Mr. Christopher Heath also spoke. "The British Medical Association," coupled with the name of Dr. Ward Cousins, was proposed by Sir George Young; and "Our President," proposed by Sir William Priestley, and responded to by Sir J. Russell Reynolds, brought a pleasant evening to a close.

The Masonic Smoking Concert, given on Thursday, Aug. 1st, in the Portman Rooms, Baker-street, in honour of the Medical Freemasons who attended the meeting of the Association, proved to be a very happy thought on the part of the hosts, the Æsculapius Lodge and Chapter, No. 2410,

and was a distinct success. The programme contained the names of forty-four well-known artists from the theatres and music-halls, most of whom put in an appearance. It is impossible to repay their kindness in entertaining medical Masons by mentioning all their names, but it may be noted that Mr. Arthur Roberts met with quite an enthusiastic reception, Mr. Lionel Brough told tales—some with a "medical" flavour—in his own dry humorous way, Miss K. Seymour and Mr. F. Wheeler gave the admirable Japanese dance from *The Shop Girl*, and Mr. Charles Godfrey an impersonation, and eulogistic song recording the achievements, of Mr. W. G. Grace in the cricket field. The programme was not exhausted until past one o'clock, when the proceedings terminated with a hearty vote of thanks on the part of the visitors to the members of the Æsculapius Lodge and Chapter for their hospitality and entertainment.

On Friday evening, the 2nd inst., the Council of the Royal College of Surgeons of England gave a very successful conversazione at the College in honour of the meeting of the British Medical Association in London. A very large number of guests attended, and the presence of ladies added greatly to the brilliancy of the scene. The visitors were received in the Museum by the President, Mr. Christopher Heath, and the Vice-Presidents. There were many very interesting exhibits. In the council-room was shown the diary of a Resurrectionist for a little more than a year in 1811 and 1812, giving details of the bodies raised; also the books of the Corporation of Surgeons, containing, in December, 1758, an entry showing the name of Oliver Goldsmith examined for certificate as "hospital mate" and found "not qualified"; a number of daguerreotypes taken in the early forties and presented recently to the College by Mr. Jabez Hogg; the portraits include several eminent physicians and surgeons. In the library committee-room were shown the Hunterian relics belonging to the College, including an escritoire, a study table, and several instruments belonging to Hunter. In the same room was exhibited a series of drawings made by W. H. Clift of the heads of murderers brought to the College after execution for dissection; among them was a drawing of Bishop, who was concerned with Hare in killing an Italian boy for the purpose of selling the body for dissection. The London Welsh Glee Singers gave performances in the theatre at intervals, and in a part of the museum the string band of the Royal Engineers played a selection of music.

On the same evening the Royal College of Physicians of London were at home to the members of the Association in their quaintly stately home in Pall-mall. The architectural beauty of the building, the perfectly proportioned rooms, the interesting and, in some cases, splendid pictures and the unique reliques, ever make of the College an admirable place of reunion, and the numerous guests of the President and Fellows appreciated the hospitality to the full. The floral decorations were particularly brilliant.

An interesting discussion took place in the Obstetric Section on the Early Diagnosis of Malignant Disease of the Uterus and the Treatment by Partial or Total Excision. With reference to the first point, we think the duty of the profession is twofold—first, to insist on a thorough examination in any suspicious case, especially when the patient is near the menopause; and, secondly, to educate women (as Dr. Scharlieb so well pointed out) not to neglect to report to their medical attendants the existence of any abnormal discharges, specially when these occur at the climacteric period. The general feeling of the speakers who took part in the discussion was against placing great reliance on microscopic examination as an aid to diagnosis, though it is only fair to state that it is a question whether in England such a thorough pathological examination is carried out as is done in Professor Martin's clinique at Berlin. Of the early clinical signs of malignancy probably hæmorrhage occurring after an examination, as well as the peculiar sensations conveyed to the educated finger, are of the greatest value; but the symptom mentioned by Professor Japp Sinclair of Manchester is also worthy of attention. He says in a doubtful case if on using a sharp spoon the parts, owing to their friability, break down, leaving a cavity, cancer is indicated. In a non-malignant case the curette causes no excavation. As to the treatment, there can be no question that the opinion of the great majority of the speakers was strongly in favour of total removal of the uterus when the disease was limited to it. In England, perhaps owing to our natural conservatism, and, as some of the speakers pointed out, from the fact that in the early history of the operation the mortality was high, some surgeons still advocate the partial excision; but with a greatly improved technique and a very much lowered mortality the method of total removal has received universal recognition in all parts of the United Kingdom. We must not forget, however, the very important fact that after any method the disease may reappear. Professor Pozzi's statement is (from his very great experience) of the utmost value. He said he had never seen a case lasting longer than three years after operation without recurrence. In this connexion, however, we may refer to six cases published in our columns by Dr. Lewers, in which, after supra-vaginal amputation of the cervix, the patients remained well after periods varying from two to eight years. The specimens were shown at the Obstetrical Society of London.

The subject set down for discussion in the Section of Pharmacology and Therapeutics on Thursday, Aug. 1st, was really rather too lengthy to be dealt with adequately in the time allotted to the various speakers. We refer to the requirements of the profession with reference to the revision of the British Pharmacopœia. Dr. Leech, who opened the discussion, attempted to keep it within clear limits, and confined his remarks to the nature and extent of the list of medicines, the mode of preparation of compounds, the weights and measures to be employed, and the amount and extent of accessory information to be given, indicating also tests for purity. Dr. Donald MacAlister followed on the same lines, and thought the size of the Pharmacopœia might be reduced by the "avoidance of the superfluous." From this point, however, many of the speakers found the time limit irksome, and although there was a general agreement that simplification was desirable and that it was quite consistent with accuracy, there was obviously a tendency to review the Pharmacopœia in detail rather than to indicate broad lines of improvement. Dr. Tirard, however, brought matters back into the proper channel by the narration of his experiences as secretary to the Therapeutic Committee of the Association; while Dr. MacAlister was responsible for the important statement that the Pharmacopœia Committee of the General Medical Council had already decided upon the introduction of the metric system of weights and measures alongside of the English system.

The organisers of the various entertainments and excursions deserve great praise for the admirable manner in which these functions were carried out, and no one with the excellent little local guide before him or her, as the case might be, could fail to find both instruction and amusement in the ample programme provided. During the week there were several excursions to places of interest more or less near to the metropolis; but by

far the best series was reserved for Saturday when members could spare a whole day to pleasure. A party of some 200, including ladies, visited Epping Forest and Claybury, where they inspected the London County Asylum. By the invitation of Mr. Hutchinson, President of the Royal Medical and Chirurgical Society, many members visited his country seat near Haslemere and partook of lunch with him in the new Museum. The Oxford, Reading, Maidenhead, Windsor Castle, and Hampton Court excursions were chosen by other parties, and the Hastings and Eastbourne trips were well attended. The medical practitioners of the first-named town invited 150 of the members of the Association to visit them, and the various local excursions in which the Hastings medical practitioners acted as guides were much appreciated.

In spite of the unpropitious state of the weather on Saturday last those members of the Association who took advantage of the hospitality offered by the Eastbourne Medical Society had every reason to congratulate themselves upon their choice of this excursion among the many to choose from. At the town hall a most sumptuous lunch was provided and the party were cordially received by the Mayor, Councillor Skinner, and the President of the Eastbourne Medical Society, Mr. J. H. Ewart, who presided, at the luncheon. The health of the Association was enthusiastically honoured, and responded to by Mr. R. O'Callaghan and Dr. More Madden. The party were then taken for a drive of about twenty-five miles, including a visit to Beachy Head, Birling Gap, and Wannock Glen, where a fruit tea was enjoyed by the party after their long drive.

We understand that the Mayor of Eastbourne has given a pressing invitation to the members of the British Medical Association to hold their next annual meeting in his borough, and has requested Mr. O'Callaghan to lay the matter before the Council.

The debate on the subject of the increase of direct representatives at the second general meeting was concluded more moderately than at one time appeared likely to be the case. In the end a resolution by Dr. Rentoul was passed instructing the Council to demand that the registered medical practitioners of England shall be empowered to elect five more direct representatives, the practitioners of Scotland one, and those of Ireland one more than at present. Dr. Hugh Woods diagnoses senility and decay in the present General Medical Council, and looks confidently to the time when it will elect all the members. There is such a thing as being too acute in diagnosis, from which error false prognosis is apt to arise. If there is any chance of increase in the direct representation—and we think such increase is decidedly called for, and might perhaps be balanced by grouping the smaller bodies that are more favoured with individual representation—it will be hindered rather than helped by all extreme views.

We hope to complete our reports of the proceedings in Sections next week, but the many interesting discussions have required at our hands more detailed treatment than on previous occasions. The meeting of the British Medical Association of 1895 has been a scientific success, for if no startling theory has been promulgated, or at any rate, made good, the orderly and useful debates upon practical topics were conducted on the lines that lead to progress while consolidating present knowledge.

We desire to record our sense of the invariable courtesy extended to us by the officials of the Association, and to our representatives by the honorary secretaries of the various sections.

THE GENERAL MEETINGS.

THE CONCLUDING GENERAL MEETING.

THE final general meeting was held at Exeter Hall on Friday afternoon, Aug. 2nd, when Professor SCHÄFER, Jodrell Professor of Physiology in University College, London, delivered the address in Physiology, which we print in full in this issue.

Sir J. RUSSELL REYNOLDS, in introducing Professor Schäfer, referred to him as his friend, his old pupil, and his colleague. At one time, said the President, he was the great friend and almost the physiological godchild of his old master, Professor Sharpey, the greatest of all teachers that have been honoured in England. For many years before he died Professor Schäfer assisted him at University College. At the meeting of the Association in 1873 Professor Sharpey delivered the address in Physiology, "and a remarkable address, too, it was," concluded Sir J. Russell Reynolds. After the delivery of the address,

Professor BOWDITCH of Boston proposed a vote of thanks to Professor Schäfer. This was seconded by Dr. LAUDER BRUNTON and heartily accorded.

Votes of thanks to Her Majesty the Queen and other members of the Royal Family for the interest and practical sympathy they had shown in the proceedings of the meeting of the Association; to Mr. Andrew Clark, Dr. Isambard Owen, Mr. H. T. Butlin, and others who had been active in organising the meeting; and to Sir J. Russell Reynolds for his able conduct in the chair, brought the formal proceedings of the sixty-third meeting of the British Medical Association to a close.

MEDICINE.

WEDNESDAY, JULY 31ST.

Discussion on Diphtheria.

Mr. LENNOX BROWNE, referring to Dr. Martin's experiments on animals, criticised those dealing with the increase in weight, or, at any rate, stated that they did not fully agree with those made by other observers. As regards nephritis, he had found that it had occurred in 9 out of 27 deaths in the 100 cases that he had followed—that is, in all of those cases in which permission to make a post-mortem examination had been obtained. He wished it to be noted that Dr. Goodall said that antitoxin does not protect against diphtheria, and thought it must be borne in mind that the injection of antitoxin simultaneously with the poison could scarcely be followed by the same results as when the poison had had some start. He differed from those observers who held that serum was most useful in cases of pure diphtheria, as he had found that the serum was really most useful in mixed cases. He wished to show that there were fallacies in Dr. Goodall's statistics of cases examined during the twelve months and to point out that only 110 of these had been bacteriologically examined, whilst no note was made as to the conditions in 109. A mortality of 21·9 did not afford much evidence that this remedy was of much value, whilst it should also be observed that small doses only of the antitoxin were given in the early cases, and that consequently these could scarcely be reckoned amongst those treated with antitoxin. Finally, he maintained that all the results which had been obtained by the antitoxin treatment might be obtained in the hands of those who carried on most perfectly what might be spoken of as the classical treatment; in fact, the only statistics that were worth anything were those in which the antitoxin treatment could be compared with the best classical treatment. As regards the statistics published in the *British Medical Journal* he would point out that in about two-thirds of the cases mentioned there had been no bacteriological examination, and it appeared to him evident that the whole of the improvement in the case mortality might be attributed to the improved hygienic conditions under which the patients were placed.

Professor BAGINSKY (Berlin) said that as one of those earliest in the field in using antitoxin—which had been prepared by his assistant, Dr. Aronson—he had been able to observe a large number of patients most carefully. He had a record in all of 710 cases. Amongst the 525 cases treated up to March he had had a mortality of 15·6 per cent., against a mortality for the preceding four years of 41 per cent., or for the year 1893 of 58 per cent. Coming to the age mortality, he found that up to two years of age the mortality was 63·36 per cent. without serum treatment, and 25·28

with serum treatment; between two and four, 52·85 without, and 17·12 with serum treatment; between four and six, 37·90 without, and 17·24 with serum; between six and eight, 27·41 without, and 11·39 with serum; between eight and ten, 19·35 without, and 5·00 with serum; between ten and twelve, 15·07 without, and 10·00 with serum; between twelve and 14, 13·00 without, and 13·00 with serum treatment. In his last 185 cases, since March, his case mortality had come down to 8 per cent., a sufficiently striking figure to compare with any statistics. He would like to point out to Mr. Lennox Browne that in his experience the whole character of the disease had changed under the antitoxin treatment. The patients look and eat better, and their whole appearance is markedly better than it was before. Disease of the heart is, of course, not done away with, whilst there were undoubtedly cases of mixed infection and septic cases which were extremely difficult to treat. As regards nephritis, he was at one with those who had observed it in a large percentage of cases before antitoxin was ever thought of, but he was convinced that the course of the disease under antitoxin treatment was less prolonged and of a much milder type than had previously been the case. He agreed with Professor Von Ranke that laryngeal stenosis is not of such frequent occurrence in cases that had been injected with antitoxin, and that it never occurs in the later stages of the disease as was formerly the case. One of the points that he wished to insist on was that the quantity of serum might in many cases be increased with advantage. Of those cases in which there had been laryngeal stenosis he had been able to obtain a recovery of 60 per cent., whilst previously to the use of this remedy the percentage of recoveries under otherwise similar conditions was only 21 per cent. Mr. Lennox Browne spoke of enthusiasm carrying them away; could that now be said to be the case?

Dr. SIMS WOODHEAD asked if it was to be a reproach against those who were working at the antitoxin treatment that they were enthusiastic. It was, he maintained, an enthusiasm that—in view of the number of experimental and clinical facts that had been brought before them that morning—was thoroughly justified. Dr. Martin's experiments, detailed and accurate as they were, and dealing with special points which could not but be of interest to those who were actively engaged in combating the disease, corroborated the interesting and valuable statistics that had been so clearly placed before them by Professors von Ranke and Baginsky, whilst he held in his hand a series of statistics recently published which he took the liberty of placing before them, as they afforded an additional link in the chain of evidence which was rapidly being forged in support of the antitoxic treatment of diphtheria. It was not always desirable to quote statistics which were not one's own, but those of M. Richet in the "Revue Scientifique" for July 20th were exceedingly striking, and he should take the liberty of summarising them. The actual number of deaths from diphtheria in Paris during periods of fourteen days were given for the first six months of a series of seven years—1884, 1887, 1890–1894. In this it was found that the lowest mortality during any one fortnight was 30, whilst the highest was 145. Coming now to the first six months of the year 1895, during which the antitoxic serum treatment was becoming generalised in Paris, it was found that the number of deaths in any one fortnight was 27, whilst the lowest was only 4. He thought that these figures by themselves were sufficiently striking, but when taken in conjunction with the statistics they had heard that morning and with the experiments that had been detailed, he thought that they afforded a basis of fact which would justify a considerable scientific enthusiasm. He had recently on several occasions said really all that he had to say on this question, and he did not propose at this late stage of the discussion to intervene between them and those who had a number of interesting facts to contribute, but he could not refrain from remarking that the experimental facts had been more than confirmed by clinical experience, and although he had not any clinical material which he could place before them, he wished to state that as one of those engaged in experimental work he was convinced that as physicians became less afraid of using full doses of antitoxin, better and better results would be obtained; he was exceedingly glad to hear, from the experience of Dr. Martin and of Professors von Ranke and Baginsky, that such also was their experience.

Dr. HERMANN BIGGS (New York) stated that since Jan. 1st any attending physician who applied for antitoxin at the office of the Health Department of New York, was supplied with it free of charge, and it was used along with an inspecting physician sent by the Board. He had not the data from which to give the case mortality for New York previously to the antitoxic treatment, but on comparing the reported cases he found that since this treatment had been introduced the case mortality had fallen at least 40 per cent. for the city as a whole. Dr. Goodall had expressed a doubt as to the immunising power of serum, but he had by him a number of statistics which he thought would throw some light on this subject. In one asylum in which diphtheria had been very frequently met with the whole of the children were immunised with 200 units each of Behring's serum, excepting in the case of very young children, who received only from 120 to 150 units each. There was an immediate cessation of the outbreak, and not one case appeared until the nineteenth day, when one patient had a mild attack. Then other cases occurred on the 30th and 31st, and during the following week 5 other cases appeared. The immunisation process was repeated, and from that date to July 15th only three cases occurred. That the infective material was still present was evident from the fact that three cases brought in and not immunised all took diphtheria, whilst in certain cases virulent Löffler bacilli were demonstrated as being present in the throats. In another institution there were 46 cases of diphtheria during fifteen or twenty days before the immunisation process was carried out, after which not one single child took the disease, but one of the nurses and the resident physician, who had not been immunised, were both attacked, whilst in the throats of 11 of the cases that had been immunised and which were examined for diphtheria bacilli, a positive result was obtained in six, but in none of these cases was there any outbreak of the disease. From this and other experiments he argued that the period of protection really extended over about thirty days. In none of the cases infected had there been any unfavourable symptoms beyond urticaria and slight morbilliform rashes which usually made their appearance about the ninth day after injection, whilst at the time of injection there was frequently a slight rise of temperature, so insignificant, however, as to call for little attention.

Dr. CAMPBELL HALL said that he came from a district in which diphtheria was endemic, and he must say that he had certainly not been disappointed by the antitoxic serum, but had been surprised and delighted by the results that he had been able to obtain. He found that after injection the membrane never spread and gradually but surely disappeared. So successful, indeed, had he been that he decided never to treat a case of diphtheria except with antitoxin, if that substance was at all procurable.

Dr. PAVY said that although this subject was of vast interest and great importance the time allotted to its discussion had already been exceeded, and they must now go on to the next subject on the programme.

The Treatment of Diabetes Mellitus by Uranium Nitrate.

Dr. SAMUEL WEST, Assistant Physician to St. Bartholomew's Hospital, read a paper on this subject. A short account was first given of the physiological action of uranium, of which, however, little is known except that in poisonous doses it acts as an irritant poison and ultimately produces albuminuria and also glycosuria. Diabetes having been selected as the disease in which to try the effect of the drug it was administered to a number of out-patients, and they all agreed in stating that their thirst was relieved, the quantity of urine reduced, and their general health improved. Then systematic investigations were made upon patients under close observation. Two cases have been under observation for over a year, and very frequent determinations of the urine made. The results have been set out in the form of tables or curves, upon which are indicated the times at which the drug was administered. The patients were all placed upon a fixed diet and under constant conditions, so that the only variation in their condition should be the administration or withholding of the drug. The first case was that of a young man aged 22. He was admitted into the hospital and placed upon the ordinary diet for three weeks or so before the drug was administered. This produced some improvement, and the percentage of sugar and the quantity of urine fell from an average of seven pints to five, the percentage of sugar also falling from about eight to between six and seven. On the administration of the uranium in small doses, gradually increased, the effect was first shown upon the quantity of urine, which was diminished considerably, falling from an average of five to

an average of three pints. The percentage of sugar also fell from about 5 to about 3. The drug was administered for about two months without intermission, being gradually increased up to fifteen grains three times a day. At the end of that time the percentage was about 1. The drug was then stopped for a time and the percentage of sugar rose again to about what it had been before—that is, between 5 and 6 per cent. Uranium was then re-administered and increased gradually. As soon as about seven or eight grains were being taken three times daily the percentage suddenly fell to about three, and with its continued administration it was finally reduced to under 1, indeed, under ½ per cent., where it remained for nearly four months, the patient having all this time gained health and weight, being nearly one stone heavier than when the treatment was first commenced. The drug was then given up again, and about Christmas time the patient did not seem so well, possibly in connexion with the festivities. The percentage was then found to be between 6 and 7, and shortly after this it actually reached 10 per cent. for one or two days. Uranium was administered again, and after about a month the percentage rapidly fell, and at last was again under ½ per cent. The quantity of uranium was reduced, the patient taking about five grains daily, and when he left the hospital a little later the percentage was between 2 and 3, but he was very well and much heavier than when he was admitted. He was not seen again till the autumn, after an absence of about four months, during which time he had taken no medicine. The percentage was then found to be again between 6 and 7, and uranium was once more administered. He was only seen from time to time, but within a month the percentage had fallen to 4. At Christmas time it rose again, and the uranium was given in fifteen-grain doses. A month later the percentage had fallen to a little over 1, and that was the condition when the patient was last seen. The second case, that of a woman of about forty-five years of age, was a private patient who had been under treatment for some time before uranium was administered. She was then passing about 1800 c.c. of urine and between 2 and 3 per cent. of sugar. Uranium was given and very soon the reduction in the quantity of urine was marked, the amount falling to about 1000 c.c. Later the percentage of sugar also fell to 1, and then under 1, and after the administration of the uranium for about two months the sugar entirely disappeared from the urine and remained absent, with one or two exceptions on odd days, for more than four months. At that time, though the uranium was continued and the diet also remained the same, the percentage rose again to 2. The patient was a good deal worried by changing houses and other causes, to which, as well as to irregularities of diet, the relapse was doubtless due. Uranium was continued, the amount of sugar fell again, but did not entirely disappear. In February the patient was seized with a very severe attack of influenza and was exceedingly ill. The uranium was stopped for the time, and, as I afterwards learnt, was not subsequently resumed. The influenza caused a great relapse in the diabetes, the amount of urine increasing largely and the percentage of sugar rising over 3. As the patient recovered from the influenza the percentage fell, the amount of urine, however, still remaining large. When seen six months after the influenza the patient looked feeble and ill, though very much better than she had been; the percentage of sugar was between 2 and 3, and the quantity of urine about 1600 to 1800 c.c. daily—that is to say, she was about in the condition in which she was when first seen by me. It is proposed to administer uranium again by-and-by. The third case is that of a patient who was in the hospital, treated in the usual way for diabetes and with various drugs, but chiefly with codeia. She had reached a condition of equilibrium and was passing about 7 per cent. of sugar, an amount which had been fairly constant for many weeks. She was then placed upon uranium nitrate, at first five grains and later ten grains three times a day. The small dose produced no effect, the large dose showed its effect rapidly in the reduction of the amount of urine, on the average from six pints to four; and when the drug was still further increased to fifteen and twenty grains the percentage also fell, and on leaving the hospital it was only 4. The administration of uranium, therefore, seems to produce striking results in diabetes. It causes first a reduction in the amount of urine and subsequently a great fall in the percentage of sugar. As the patients were under constant conditions in respect of diet and general regime it is fair to refer all these results to the action of the uranium, for the administration of the uranium caused the quantity of the urine and the percentage of sugar to fall. On withholding the uranium both increased; on giving it again both once more fell, until in the one case the sugar entirely disappeared from the urine, and in the other almost entirely. Although uranium does not cure diabetes it seems to have a power of controlling the secretion of sugar greater than is possessed by any other drug Dr. West was acquainted with. It is suggested that its action may be due to its power of checking amylolytic digestion and that it may be most useful as an adjuvant in those cases of diabetes in which diet largely influences the amount of sugar, so as in such a case to lead even to the complete disappearance of sugar from the urine.

THURSDAY, AUG. 1ST.

Acute Lobar or Croupous Pneumonia: its Etiology, Pathology, and Treatment.

A discussion on this subject was introduced by Dr. R. DOUGLAS POWELL. Great interest, he said, was manifested in this important subject, and the large lecture theatre of the Conjoint Examination Hall was full to overflowing when Dr. Powell rose to introduce the discussion. He commenced by regretting that he could not record any practical abatement of the mortality from pneumonia, nothwithstanding improved public health with regard to most other diseases, and especially those of the zymotic class, including tuberculosis; and, moreover, that one-third of those attacked were in the zenith of vigour and work. He pointed out that the prevalence of pneumonia, whilst having no direct relationship to severity of climate as dependent upon latitude, was nevertheless directly influenced by seasonal lowness and by changeableness of temperature in temperate climates. Individual imprudence was a factor which could not be statistically estimated, yet which told importantly in places where climatic changes were considerable, and in localities where the vicissitudes of social life, and where manufacturing and office industries involved frequent exposure to sudden changes of temperature. Probably one-third of the cases of pneumonia were attributable to chills thus contracted through hygienic imprudence, especially amongst those past middle life; and the fatalistic and inadequate view that the reception of a microbe was alone sufficient to cause pneumonia encouraged such imprudence. When the temperature ranged above 104°F., however, it approached hyperpyrexia and became an important source of nervous exhaustion and cardiac failure. The ice cradle, cold pack, cold bath, and cold sluicing were valuable, aided by quinine or salicine. The pathology of chill, with regard to the exact temperature, vaso-motory, and other phenomena which attended it, and their relationship to the variability and multiplication of various microbic organisms, would form an admirable subject for experimental inquiry. The normal compensatory powers of the human organism with regard to temperature might be surprised and defeated by sudden exposure under conditions of temporary depression or debility. Pneumonia tended to complicate fevers rather in their apyrexial stages, and it was at the lower ranges of human temperature that microbic cultivation was most vigorous. There were other conditions besides chill predisposing to pneumonia, such as depressed vitality, privation, the uræmic state, rheumatic conditions, diabetes, &c.; but he (Dr. Powell) would pass to that which was the most important factor for discussion in its etiology—viz., how far was the reception and cultivation of a specific organism essential? Friedlander's, Fraenkel's, and Klein's microbes were all candidates for the honour of disseminating pneumonia amongst us, Fraenkel's pneumococcus being most in favour. Undoubtedly pneumonia was a specific general (and therefore a microbic) disease, but the pneumococcus of Fraenkel presented some difficulties which had to be cleared up before it could be finally accepted as *the* germ of pneumonia. Besides its prevalence (80 per cent.) in pneumonia it was held to account for a large proportion of many other diseases—purulent meningitis, ulcerative endocarditis, otitis media, &c. — diseases which had little pathological resemblance to pneumonia and with which pneumonia was not commonly associated. In secondary inoculations septicæmia was the most common result, and was too loosely accepted as valid evidence of specific virulence. In the cases of pneumonia published by Osler of Montreal ulcerative endocarditis occurred as a frequent complication. Dr. Powell could not understand this, as he had never seen the disease a direct sequel of pneumonia. The presence of the coccus in healthy

secretions was a fact which, however, did not militate against its possible virulence under conditions favourable to its aggressive cultivation. Pneumonia resembled such diseases as tuberculosis, erysipelas, acute rheumatic tonsillitis, and influenza, which, although possessing a specific organism, required for their efficient etiology certain additional conditions of impaired vitality, local or general, to enable the organism to become aggressive, and it was by ascertaining and avoiding these conditions that much would be done to prevent and combat the disease. Instances might be adduced in which pneumonia had appeared to spread by direct infection. Such cases were rare, however, and if the more important causes which lead to spread through a household (e.g., sewer-gas emanations, epidemic influences, and influenza) were allowed for, but few cases were left to be accounted for by contagion. Dr. Powell hoped the question of infection would be fully discussed. He had heard of striking instances of infection, but had no personal knowledge of it. Pythogenic differed from croupous pneumonia in the smallness of the areas of lung involved and their more scattered distribution and greater liability to metastatic change in the fluctuating temperature and frequent termination by lysis. The microbic organism was the same, but was associated with another microbic poison of a septic kind. As the pneumonia advanced leucocytosis occurred. White cells increased to a great extent in the pyrexial condition. When the temperature fell the percentage of white cells diminished, but became more abundant if any fresh rise of temperature took place. Dr. Powell defended the present routine treatment of pneumonia as sufficient and useful for ordinary cases—namely, attention to the conditions of the skin and excreta, a strict dietary, and absolute rest, which relieved the burden imposed on the right side of the heart. But there were certain symptoms of danger in more severe cases which required a more active and farseeing treatment, and chief amongst these was hyperpyrexia. The pyrexia of pneumonia was brief, normal to the disease, and unfavourable to microbic activity, and, therefore, its treatment by antipyretics was harmful. The development of the germ was checked by a high temperature. In most of the favourable cases—i.e., in normal pneumonia—this generally rose to 104°, and at this temperature the growth of the germ was checked. It was not advisable immediately to reduce the temperature below 102° on this account. In Dr. Powell's opinion the reduction of temperature by drugs that are not distinctly inimical to micro-organisms was distinctly harmful; and if the temperature was brought as low as 99°, an overdose of the drug had been given and the patient would suffer. These drugs were far better than antimony and aconite, both of which produced profound cardiac depression. In the pneumonia of drunkards tincture of iron in large doses could with profit be added to the medicine. Pain, which might be due to two causes—distension of the lung or pleurisy—required special treatment. The pain of distension might be met by ice compresses, but was better treated by leeches and hot poultices; that of pleurisy by a blister with superposition of hot poultices in quick succession. The cause of the pain having been thus attacked it might be soothed by a moderate dose of morphia. Ice compresses both profit and suffer by their too enthusiastic advocacy. Children and young adults were, he thought, the most suitable subjects for this treatment. Active delirium or sleeplessness suggested—(1) cumulative doses of food and stimulants, followed by (2) a sufficient doses of morphia and strophine, with (3) oxygen inhalation in case of cyanosis and sweating. Dr. Powell recommended in grave cases a more timely use of oxygen. It was a powerful heart tonic, and he considered its use was often postponed until too late. It also had a marked effect in diminishing restlessness, and when the patient is sleeping if a little were from time to time administered it often enabled him to remain asleep. Cardiac failure was brought about by impaired pneumogastric innervation, by impaired nutrition of heart muscle by defective blood, and by over-distension of right cavities and depletion of left cavities. Strychnine or caffein, sometimes with digitalis, subcutaneously, maintained nerve power; oxygen in occasional doses nutrified heart muscle; and venesection or leeching, with depletion of portal system, in combination with the other remedies, relieved the congested right heart in threatening cases. Against the danger of excessive extension of exudation he believed the timely substitution about the fifth day of acid remedies or tonics, sometimes including iron and digitalis, were the best remedies. He doubted the value of ice applications in this regard. He could not as yet find much reliable experience to sanction the antitoxic treatment of pneumonia, and until our knowledge was more precise with regard to the microbe of pneumonia and its toxine, and until further researches on the lines which were already at work had been completed and compared, antitoxic treatment, fraught with its own dangers, would be premature in the human subject.

Dr. WASHBOURN considered acute lobar pneumonia to be a specific disease. In broncho-pneumonia the inflammation spreads by the bronchial tubes. In lobar pneumonia it spreads directly through the alveoli. He admitted that a few cases occurred without the specific germ being present, but pointed out that in throat inflammations many different germs produced inflammation. In post-mortem examinations he had never failed to discover the germ if he examined portions of lung that had recently been attacked. It was easier to detect the germ in lung tissue than in sputum. If the products from the germ cultivations were injected into animals they often died from septicæmia. He considered the crisis due to the formation of a substance improperly called an antitoxin.

Dr. AULD (Glasgow) agreed that pneumonia was a specific disease.

Dr. DREISCHFELD (Manchester) confined his remarks to influenza pneumonia, which he considered highly infectious. He thought the sputum should always be disinfected.

Dr. J. E. POLLOCK considered the question from a clinical point of view. He admitted that in almost all cases a germ was present; but was it always the cause? He quoted the case of a clergyman whom he had recently seen in consultation in the country. The gentleman was in perfect health and drove out in an easterly wind. On returning home he was immediately seized with a chill. The next day on examination consolidation was present, and in a few days he was dead. Was it to be assumed, Dr. Pollock asked, that in such a short time the development of micro-organism could be the cause of such rapid changes of structure. It was impossible, he said, to take laboratory knowledge alone. All theoretical knowledge must be brought down to clinical experience.

Dr. CLIFFORD ALLBUTT enlarged on the great advantages that could often be obtained from oxygen inhalation.

Dr. GIBSON to some extent opposed the views expressed by Dr. Pollock. He pointed out that in India cholera had existed for 200 years, and clinical observation did not even suggest its cause, but the bacteriologist showed it to be due to the presence of a micro-organism.

Dr. COGHILL spoke from personal experience of the benefit to be derived from aconite. He said that in his own case it gave very great relief to the most distressing symptoms.

Dr. D. B. LEES spoke at some length on the benefit to be derived from ice, but he considered the treatment must be pushed to its full extent. The greatest benefit was to be obtained in children and young adults.

Dr. POPE considered that the pneumonia complicating typhoid fever was particularly infectious.

Dr. SHINGLETON SMITH (Clifton) raised the question of the treatment by large doses of digitalis. He particularly commented on the statistics of Dr. Petresco of Bucharest, who had published 1300 cases with a mortality of only 2 per cent. These had been treated by four to eight grammes daily of powdered digitalis; he could not doubt, but could hardly understand these results. When compared with the results of English hospital treatment, which showed a mortality of 20 to 25 per cent., they were very striking. He merely regretted that Dr. Petresco, who had been present at the commencement of the discussion, was not there to explain.

Dr. SQUIRE objected strongly to the word croupous and advocated the term lobar pneumonia.

Dr. DOUGLAS POWELL, in reply, regretted that Dr. Washbourn had not more time to explain his views on the antitoxin treatment of the disease. He thought that Dr. Foxwell and Dr. Clifford Allbutt had rather mistaken his views as to the advantages of oxygen. He did not doubt its efficacy and advocated its earlier use as a cardiac stimulant. He agreed with Dr. Lees as to the use of ice in young patients; certainly in children he would rather use ice than a blister.

SURGERY.

THURSDAY, AUG. 1ST.

The Pathology and Clinical History of some Rare Forms of Bony Ankylosis.

Mr. HOWARD MARSH read a paper on this subject. Two

propositions used to be laid down about bony ankylosis, he said; the first was that it was the only way in which a joint could recover after suppuration, and the second was that it was always due to suppuration. Neither of these statements can now be upheld. Suppuration is not necessarily followed by bony ankylosis, as, for instance, in pyæmia and in some forms of tuberculous disease; in fact, we may say that bony ankylosis is a rare ending to suppuration in a joint. Also, bony ankylosis may occur without suppuration. It is usually said that there are three ways in which tuberculous disease of a joint may end—viz., perfect recovery, fibrous ankylosis, or bony ankylosis; to these must be added a fourth, in which tuberculous disease occurs in a joint, and the inflammation is not active, the signs are but slightly marked, and yet the condition ends in ankylosis. Several cases were cited, and in one of these, in which the elbow was affected, excision was performed, the excised portion of bone being shown. A similar process can probably also occur in the vertebral column. Charcot's disease also may possibly end in ankylosis apart from any suppuration. Charcot himself has described a case in which ankylosis occurred in a tabetic foot. Three specimens were shown from the Cambridge Museum with ankylosis of some of the bones of the foot; there was no history accompanying them, but as the joint surfaces were unaltered and the ankylosis was due to ossification of ligaments, they were probably not cases of suppuration, but very possibly they were tabetic. Further evidence that ankylosis might be nervous in origin was found in a case where bony union occurred in an inter-phalangeal joint after injury of the median nerve in the forearm. Other instances of ankylosis without suppuration were to be found in gout, as shown by a specimen of the bones of a hand, in gonorrhœal rheumatism, and also in lateral curvature of the spine; this latter is decidedly common. A case of multiple bony ankylosis was described; it occurred after an attack of what was apparently rheumatic fever; all the joints of the lower limb became stiff, and at the patient's death it was found that the union was bony. In the spinal column in osteo-arthritis bony ankylosis is common, but it is to be noted that the fixation is really due to ossification of the ligaments surrounding the joints, without any interference with the joint surfaces themselves. Ankylosis may be reparative, as in pyæmia or tubercle, or it may be degenerative, as in tabes. As to treatment, four propositions may be laid down: 1. When bony ankylosis is likely put the joint in good position. 2. We possess no means of preventing it. 3. Passive movements, far from retarding bony union, seem even to favour it. 4. After it has occurred excision or osteotomy may be useful.

Mr. TARGETT said that the specimens showed well the difference between true bony ankylosis of a joint and ankylosis caused by ossification of the ligaments surrounding the joint (this latter being comparable to myositis ossificans). The most rapid forms of bony ankylosis were the result of pyæmia.

Mr. BOWLBY mentioned that in the case already referred to of injury to the median nerve most of the joints in the hand were ankylosed. He thought that joint changes were by no means rare in nervous diseases, and considered it probable that in the future it would be shown that osteo-arthritis was due to some nervous lesion.

Mr. BLAND SUTTON mentioned that it was not rare to find an ankylosed occipital and atlas, yet the cause was undetermined. Mr. Arbuthnot Lane had attributed them to pressure on the head, and so thought they occurred in costermongers. A similar condition he had found in the museum of the Veterinary College at Paris in the bones of oxen, and in this case it was probably due to their drawing loads by means of yokes fastened to their horns. Ankylosis by ossification of the ligaments of the spine was common in horses.

Mr. T. S. ELLIS (Gloucester) said that three names—hallux valgus, hallux rigidus, and hallux dolorosus—were applied to one and the same condition—viz., ossification of the metatarso-phalangeal joint of the great toe. If the great toe goes outwards above the other toes there is very much less pain than if it goes outwards below the other toes.

Mr. MARSH, in reply, said that the fact that many cases of ankylosis of the spine occurred in old people was no proof that they were not tuberculous; he had seen a case of angular curvature at the age of sixty-nine.

A Hitherto Undescribed Locality in the Male Urinary Bladder where a Stone may elude Contact with the Sound.

Mr. BUCKSTON BROWNE read a paper on the above subject. He said there were three well-known forms of vesicle pouch where a urinary calculus might lie and escape detection by any instrument introduced by the urethra; the first was the ordinary sacculus, the second a post-trigonal pouch, and the third a post-prostatic pouch. He had recently met with a fourth form, viz., a pouch situated between the enlarged lateral lobe of the prostate and the bladder wall. In his case the stone lay in such a pouch on the right side. Supra-pubic cystotomy was the only satisfactory method of dealing with such a case. Sometimes by dilating the bladder, and keeping an elastic ligature round the penis, it may be reached by the urethra.

Mr. MAYO ROBSON (Leeds) mentioned that he had had a case where a stone had lodged in a pouch between an enlarged prostate and the anterior wall of the bladder. Also in a case of supra-pubic prostatectomy he had found three calculi in a post-prostatic pouch.

Necrosis of Femur.

Mr. NEWMAN (Stamford) showed a specimen of necrosis of the left femur removed by amputation through the thigh in a patient who had been under his care for many years. Symmetrical necrosis had occurred of the popliteal surface of both femora, and portions of necrosed bone were removed. Recovery occurred, but after intervals of health other operations had to be performed, and ultimately amputation of the left thigh had to be done. Recovery followed. The specimen showed how very thin was the shell of bone which had supported the patient's weight for so many years.

The Surgical Treatment of Cysts, Tumours, and Carcinoma of the Thyroid Gland and Accessory Thyroids.

Mr. H. TRENTHAM BUTLIN opened a discussion on the Surgical Treatment of Cysts, Tumours and Carcinoma of the Thyroid Gland and Accessory Thyroids. He commenced by saying that of tumours of accessory thyroids he knew nothing; he had seen cases where tumours had occurred apparently separately from the thyroid gland, but on operation they had always been found to be connected with the gland. Of another portion of the subject also he could say nothing from personal experience, and that was with regard to the surgical treatment of malignant disease of the thyroid gland; he had never seen a case in which removal was possible; at a very early stage infiltration of the surrounding structures occurred, and this is equally true of carcinoma and of sarcoma. Malignant disease of the thyroid gland may occur at an early age; he had seen it as early as fifteen years in a boy. It is of course quite possible that malignant disease of the thyroid gland may be met with at a stage early enough for successful operation, but it must be very rare. As to cysts and adenomata, much progress has been made within the last few years, and now we know that most cases of partial enlargement of the thyroid gland are not true enlargements of the gland itself, but are due to the presence of separate cysts or adenomata in the substance of the gland, from which they are easily separable, as they are fully encapsuled. The operation performed now is very much simpler than formerly, as it is recognised that it is a separate tumour, and that therefore no part of the true substance of the thyroid gland need be removed. All that was needed was a simple incision down to the capsule, which was opened and the tumour shelled out; any bleeding vessels were tied, and a drainage-tube was introduced for the first few hours. The operation was best described by the name "enucleation." There are few complications of importance which may occur during the operation. One of these is hæmorrhage. In the out-patient room he saw a woman aged forty who had a cyst of the thyroid gland; he punctured it and fluid came out, at first clear, but rapidly containing more and more blood; a large quantity of blood was thus lost, and as the hæmorrhage showed no signs of ceasing a pad was put on; this completely checked the bleeding, but a few days later the patient returned and said that whenever the dressing was shifted bleeding occurred. She was admitted into the hospital and the cyst laid open; the hæmorrhage was now profuse, and the sac had to be plugged from the bottom. The patient completely recovered. Hæmorrhagic cysts are characterised by containing soft, vascular, intra-cystic growths. The chief objection to the operation of enucleation is the scar. It is always unsightly and may be very conspicuous, and so in young people it was desirable to avoid it if possible. The alternative operation is injection. The directions laid down by Sir Morell Mackenzie when he introduced this method of treatment should be carefully followed. He has used the method with success in many cases, and the

scar left is almost indistinguishable. Failure may occur, or even death may follow (probably from thrombosis and embolism); paralysis of the vocal cords or diffuse suppuration; but all these results are probably due to the selection of unsuitable cases. Nothing can be more satisfactory than the injection of a cyst, and nothing can be worse than injection of the parenchyma of the gland. The cases to select for injection were cysts of moderate size with no intra-cystic growths, and occurring in young patients in good health. If the cyst is old and thick-walled it is not suitable for injection. A small amount of intra-cystic growth is probably no real hindrance to injection. The cannula on being introduced shows, by the escape of fluid, that a cyst has been punctured and not thyroid substance, so the injection of gland tissue need never occur. After failure by injection excision may be done.

Dr. W. W. KEEN (Philadelphia) said that the question of anæsthesia was important. He had recently had the opportunity of seeing a number of cases operated on in Continental Europe, and there he found that anæsthetics were hardly used at all for this operation; occasionally an anæsthetic was employed while the skin incision was being made, but then given up. Kocher said that the hæmorrhage was so very much less as the respiration was much less embarassed. Another surgeon when about to tie the thyroid artery talked to the patient to make him speak, in order to be sure that the recurrent laryngeal nerve was not being injured by the ligature. He had noticed also that the skin incision was transverse with slight convexity downwards; by this the scar is very much less noticeable. Another method of rendering the scar invisible was that introduced by Halstead of Johns Hopkins University—namely, subcutaneous suture by silver wire, which is made to pass from one face to the other of the wound without perforating the epithelium at all; another point in favour of this method was that septic micro-organisms in the skin are not disturbed. Hæmorrhage during the operation was often troublesome, and he had noticed how very careful Swiss surgeons were to arrest the whole of the hæmorrhage, even if not proceeding from a visible vessel. In cases of extirpation all the veins and arteries are systematically tied.

Mr. CHARTERS SYMONDS said that he had had forty-four cases of removal of portions of the thyroid gland without any harmful result; of these, twenty-nine were for adenomata and cysts. As to carcinoma, on one occasion severe dyspnœa had occurred, and in order to perform tracheotomy he had had to cut right through the new growth in order to reach the trachea. Practically no hæmorrhage occurred, and it was easy to open the trachea with the finger. For the enucleation of cysts he prefers a median vertical incision, as giving a better view of the whole of the tumour. Hæmorrhagic cysts contain intra-cystic growth. If the cyst when exposed is white or bluish no hæmorrhage will occur, but if it be purple hæmorrhage is very likely to result. Sometimes the wall is very thin and cannot be dissected out. In these cases, if the whole tumour be brought outside the wound the hæmorrhage ceases. With regard to anæsthetics, ether was used in two of his cases, and there was much hæmorrhage. Substernal cysts are very troublesome. He agreed with Mr. Butlin as to the value of injection in suitable cases, but acknowledged that it was by no means easy to determine which cases were suitable. The length of scar may sometimes be diminished by emptying the cyst before enucleating it; by this means a large cyst may be removed through an incision not much more than an inch long.

Mr. MAYO ROBSON (Leeds) thought that malignant disease of the thyroid gland must be very rarely suitable for operation. In one case of dyspnœa due to malignant disease of the gland he had employed intubation with success. In some cases of cyst the cystic formation seemed to be diffuse, so that it was impossible to remove the cysts individually, and it was necessary to remove half a lobe. With regard to anæsthetics, ether is bad, and he prefers in many cases to use no anæsthetic except for the skin incision. Tracheotomy may be needed during the operation for marked cyanosis.

Mr. JAMES BERRY remarked that though he had seen twenty cases of malignant disease of the thyroid gland he had never seen one which could be operated on. In the majority of cases of cysts and adenomata no operation is required and he considers that some very definite reason for operation should be present before any surgical treatment is undertaken; the symptom of most importance is dyspnœa. Of 36 cases in which he had operated, 31 were operated on for dyspnœa, 1 for dysphagia, 1 for an old suppurating sinus, and only 3 for deformity. Two classes of operations may be required, extirpation and enucleation. Enucleation is only advisable for a single well-defined tumour on one side only; but if many adenomata or cysts are present extirpation must be performed. The more nearly globular a tumour is, and the smoother its surface, the more likely it can be removed by enucleation. The most serious tumours are those situated low down behind the sternum. A cast was shown of a case where urgent dyspnœa was present, from pressure on the trachea of a thyroid tumour beneath the sternum, yet practically no swelling was visible in the neck.

Mr. C. B. KEETLEY said that he considered that early malignant disease was suitable for operation, as it was encapsuled for some time, but the difficulty was its early diagnosis. He had operated on three cases of enlarged thyroid without an anæsthetic, except for the first incision, and the operation was very well borne. He did not consider that drainage was required in any case.

Mr. A. E. BARKER had had two cases of malignant disease of the thyroid gland, in which he had operated. One was on account of a very large tumour which needed a skin incision of fourteen inches. Glands were involved, being traced down to as far as the apex of the pleura, and were removed; two years later another diseased gland was removed, and now—six years later—the patient was quite well. In the second case the whole of one scalenus anticus was affected with the growth and was removed with the tumour; the patient completely recovered, and no recurrence occurred.

Mr. JORDAN LLOYD (Birmingham) had met with two cases where enucleation was impossible, the tumours consisting of cysts and solid matter. He had also had two cases of very severe hæmorrhage. He did not consider the scar objection to be of much importance.

Mr. THELWALL THOMAS (Liverpool) had met with two cases of tumours occurring in accessory thyroid glands. With regard to the scar, he thought more attention should be paid to what have been called the "lines of cleavage" of the skin; an incision made along such a line always resulted in a smaller scar than one made across a line of cleavage; this, he considered, accounted for the increasing width of vertical scars in the neck.

Mr. R. C. CHICKEN (Nottingham) said that for cysts he never used any other method than enucleation. Isthmoidectomy he considered of value for cases of serious unilateral enlargements of the thyroid gland.

Mr. CATHCART thought that there were gradations in malignancy, and that this fact accounted for the different results of operation in malignant disease of the thyroid gland.

Mr. BUTLIN, in reply, said that a great objection to the transverse incision was the appearance of the scar, which was very suggestive of cut-throat. In an ordinary case the amount of blood lost during an enucleation was very small. He did not approve of puncturing a cyst before removing it, even to save some scar, as the operation of enucleation was much more difficult.

OBSTETRIC MEDICINE AND GYNÆCOLOGY.

THURSDAY, AUG. 1ST.

The Early Diagnosis of Malignant Disease of the Uterus, and the Treatment by Partial or Total Excision.

Mr. J. KNOWSLEY THORNTON, Consulting Surgeon to the Samaritan Free Hospital, opened a discussion upon this subject. The speaker stated that he considered it to be his duty to give his own practical experience and the views founded upon it, and not to attempt a *résumé* of the work of others, but merely to give a lead to the expression of their experience, he appealed strongly to the general practitioners to take more note of the trivial departures from healthy normal menstruation, and insisted on a demand for early internal examination. He pointed out that it is in their hands and not in those of the consultants that advance in early diagnosis lies, and he appealed to them when they are only suspicious to lose no time in getting their suspicions confirmed or dispelled by consultation with someone of greater special experience than themselves. In answer to the question, What is cancer? he briefly described some of its most reliable symptoms and discussed the propriety of removing small

portions for microscopical examination. He then classified the various forms of malignant disease which attack the uterus, and passed on to the method of treatment suitable for each variety. He advocated supra-vaginal amputation of the cervix for adenoma and epithelial cancer of the vaginal portion, and pointed out that to remove the uterine body is useless in most of these cases. He then described the operations of supra-vaginal amputation of the cervix and vaginal extirpation or hysterectomy. He discussed Williams's view that a fresh outbreak after years is not a recurrence but a new appearance of disease in a patient liable to develop it, and pointed out the importance of this theory on the extent of operation advisable. He concluded with a brief discussion of the points that should guide in the selection of cases as suitable for one or other of these operations, deprecating operation in hopeless cases, and insisting that the sound rule of surgery, only to operate for malignant disease when it can be efficiently and entirely removed, should be rigidly applied.

Professor MARTIN (Berlin) did not think that symptoms alone (such as pain, altered secretion, or even bleeding at the climacteric) could settle the diagnosis in a doubtful case. In Germany microscopic examination alone was relied on, but it required extreme experience and education in the microscopic anatomy of the uterus to say what was really malignant. If the diagnosis was not plain he would let the case alone. He had been struck on a visit to Italy last year by the fact that when the uterus was removed even in the most suitable cases there had been recurrence, so that in that country the question of operating at all in cancer was at present *sub judice*. He objected to the supra-vaginal operation, because in his hands all the cases so done had recurred. Further, adenoma of the cervix was rare, while nearly all cancer cases were epithelial. In cancer of the breast the surgeon removed not a part, but the whole of that organ; the same practice should apply to the uterus. If the disease had also appeared in the vagina he would remove it if possible and then the diseased uterus; but if the lateral ligaments were involved he would do no radical operation. As to the complete vaginal hysterectomy, the results in Germany of the immediate operation were assured. The mortality was only from 4 to 10 per cent. He recommended the use of the hot cautery to destroy any slough before doing the radical operation. They had recently in Germany had cases in which they had performed the abdominal operation and removed affected glands as high as the bifurcation of the aorta.

Dr. POZZI (Paris) said if cancer was diagnosed either in the breast or uterus the proper line of procedure was to remove the whole organ. The reason why the total extirpation of the uterus was not done formerly so much was because the early results were bad. Now the *technique* was improved, the results were better, and the same line of surgical treatment should be applied both to the uterus and to the breast. The supra-vaginal operation was, in his opinion, a difficult one, it was a long one and tiresome to the operator, and was often attended with hæmorrhage. If done before the menopause it might be attended with atresia of the cervix and distension of the tubes. He had seen three cases of hæmaturia and hæmato-salpinx follow the supra-vaginal amputation, in each of which he had to perform an abdominal operation for their removal. The great point was to operate early. The method might vary; and, for himself, he was using forceps now more than formerly. With forceps he had often performed the operation in less than ten minutes. His advice was to operate when the disease was limited exactly to the uterus or upper part of the vagina. If the disease had extended to the lateral ligaments he would not do the radical operation. He would formulate his rules for operating in this way: when the uterus was mobile—in other words, when it could be easily pulled down—the operation was an easy one for the surgeon and a good one for the patient. On the other hand, if the organ could not be pulled down it was both a difficult and a bad operation. In cases in which the total extirpation could not be done he would curette and cauterise with the old hot iron of Baker Brown, not the Paquelin (which acted too superficially). This plan prolonged life and could be repeated if required. He believed, no matter what operation was done, there was recurrence in three, four, or five years. He never saw a case lasting longer than three years without recurrence, but in the interval the patient had health and comfort. In a word his views were: operate by total extirpation in the early cases, and in the advanced curette and burn.

Dr. LUSK (New York) was bound to say his experience was that when the disease was in the cervix, even after total extirpation, it recurred rapidly. He was inclined to go back to the high partial operation. In the advanced cases he liked the plan of scraping out the disease and then packing the cavity with chloride of zinc solution (four to six drachms to the ounce). After the slough came away there was a clean granulating cavity, even in cases usually rejected.

Dr. SCHARLIEB emphasised the great importance of impressing on women the mistake of neglecting suspicious symptoms—as, for example, hæmorrhage occurring at the menopause. Women must be taught not to regard this as a normal phenomenon, as they too often did. Further, they as medical practitioners must all pay far more attention to early diagnosis, and students should be better educated practically in this direction in the methods of examination.

Professor MURDOCH CAMERON (Glasgow) said his experience was that many women thought they had cancer who really, on examination, were found not to have this disease, while those who came with malignant disease were, in the vast majority of cases, too late for operation.

Professor JAPP SINCLAIR (Manchester) said the diagnosis was more difficult in cases before than after the menopause. In lacerations of the cervix certain changes sometimes took place, and in such circumstances the diagnosis was very difficult. He mentioned a test he had found very useful in the diagnosis of cancer. If the operator used a sharp spoon in the early stage of epithelioma of the cervix he could scrape away the tissue, as it was friable, and a cavity was left. In a non-malignant case—say, hypertrophy—an excavation will not be caused; there may be bleeding, but no friable tissue will come away. The supra-vaginal operation was not justifiable before the menopause, as it did not cut off the blood supply and did not bring about quiescence in the pelvis. The total operation was simpler than the supra-vaginal amputation. He had himself a run of thirty cases with no death, and indeed with no anxiety. He preferred the ligature, as he thought less blood was lost in this way. He sutured the peritoneal flaps and put an indiarubber drainage-tube at one side. He thought the drawback of not suturing the peritoneum was that pressure caused sloughing, and there had been cases of vesico-vaginal fistulæ and obstruction of the bowels.

Dr. PLAYFAIR said Mr. Thornton had advised the most reaching surgical method when the disease could be diagnosed. In his (Dr. Playfair's) opinion the partial operation was not the most reaching plan. He regarded the partial method as an unsurgical operation. He said if in a case of cancer of the breast the surgeon removed the whole organ, why in malignant disease of the uterus should the gynæcologist be told to do a partial excision of that organ? It was strange that England was the only place where the partial method of operation is still performed by some. He thought this was due to the fact that in former times total vaginal hysterectomy was attended with a high mortality, but now that the death-rate had fallen to 5 per cent. this argument could no longer apply. While microscopic examination was of value when the disease was advanced, he was suspicious of its utility in the early stage.

Mr. J. W. TAYLOR (Birmingham) thought more time must be devoted to the pathology of the uterus before they could rely on microscopic examination. He had two cases which the microscopists said were malignant, but the subsequent history was against this view. He thought a good rule to follow was to regard any case with suspicion in which examination caused bleeding. Total vaginal extirpation he regarded as the best operation.

Dr. CAMPBELL (Belfast) also advocated the total removal of the organ in uterine cancer.

Mr. BOWREMAN JESSETT could not regard the microscope as reliable. The supra-vaginal amputation was not always an easy operation, it was sometimes attended with bleeding. He had 4 per cent. mortality, which was half that of total excision. He used ligatures.

Dr. W. DUNCAN pointed out the importance before operating of making a rectal examination to see whether the utero-sacral ligaments were infiltrated or not, as they might be when bimanual examination conveyed the sensation that the uterus was quite mobile. No operation should be done if these ligaments were infiltrated. At the Obstetrical Society some years ago (1885) he had advocated in a paper the partial operation, but he had since then, owing to the

improved technique, changed his views, and he now advised total extirpation, which had been shown to have a mortality of from 4 to 10 per cent. He thought ligatures safer than forceps.

Dr. SMYLY said those who had attended Professor Martin's Clinique in Berlin knew that the microscopic examination was done in a most thorough way at the same time and conjointly by his assistant, who had a special training and knowledge of the microscopic pathology of the uterus. He (Dr. Smyly) advocated the total operation, which he performed. The question of special importance now was whether cancer was inoculable or not. He thought, acting on the theory that it might be inoculable, the wise course was to use the cautery before removing the uterus. In this way the cut tissues were protected from contact with the cancer structures.

Dr. DONALD (Manchester) spoke of the value of the test mentioned by Dr. Japp Sinclair, and advocated total extirpation of the uterus in cancer. He used chromic gut, which he cut short.

Dr. H. R. SPENCER agreed with Mr. Thornton that the supra-vaginal operation was the better one. It was without danger in skilled hands, and they must remember that when recurrence took place in such cases it was in the broad ligaments. He thought the operator should be his own pathologist.

Dr. A. J. SMITH (Dublin) said in his opinion an objection to the partial operation was that in cases in which total excision had been done, the disease being supposed to be limited to the cervix, when the uterus was examined after removal in some of the cases malignant disease was found in its body. To his mind, the great difficulty was in the diagnosis of adenoma and hyperplastic endometritis from cancer, especially if there was a diffuse uniform intra-uterine swelling. He thought the use of the microscope of great value in the diagnosis. If after dilatation of the uterus he found a circumscribed outgrowth he removed a portion and had it carefully examined by a microscopist, and if he pronounced it malignant he removed the organ. The cases in which the growth in the interior of the uterus was diffuse required very careful watching. He advocated total excision, and he used the cautery, as he believed in local inoculation.

Dr. AMAND ROUTH spoke of the value in diagnosis of the impression conveyed to the finger. At the Samaritan Hospital they had only about seven or eight cases in the year that they could operate on radically.

Dr. MORE MADDEN, Dr. HAYES, and Dr. HEYWOOD SMITH also spoke in the discussion.

Mr. KNOWSLEY THORNTON, in his reply, said the discussion had confirmed him in his opinion of relying less on the microscope and more on the clinical diagnosis. As to the question of partial and total extirpation, they must remember that the disease spreads from the cervix into the broad ligaments and not into the body of the uterus. He denied the analogy between the heart and the uterus. His own personal experience (and in this discussion it was that which he gave) was that in supra-vaginal amputation he had no deaths, and in the after-life history he got the best results. As to the question of removing the tubes, in two cases of cancer of the body of the uterus which he had removed he left the tubes and the patients are still well. He would not, as a rule, remove the ovaries. As to the technique of the supra-vaginal amputation, he thought the special point was the securing of the uterine arteries, after which the risks and difficulties were much less. As to the after-life history he was suspicious that sooner or later patients too often died with a recurrence of the disease in some part of the body. His objection to forceps was the risk of sepsis from sloughing of tissue grasped in their blades, and in their removal there was the risk of breaking up tissue, which decomposed and gave rise to septic absorption.

PUBLIC MEDICINE.

THURSDAY, AUG. 1ST.

Hospital Isolation, House Quarantine, and Disinfection.

A discussion on this subject was opened by Dr. PHILIP BOOBBYER, medical officer of health of Nottingham. What is chiefly required, he thought, at the present time is more uniformity of action and aim on the part of public authorities with respect to all matters affecting the isolation and disinfection of the infectious, sick, and convalescent. Large and expensive hospitals are now provided, or in course of being provided, in most inhabited districts, but all that relates to their administration is in many cases practically left to the discretion of two or three persons, who have nothing more reliable to guide them than their own often original and independent notions of what they should do. Single hospitals have in some instances been built to meet the requirements of very wide surrounding areas. It will often be a matter of difficulty, as Dr. Thorne and others have pointed out, to secure the removal of patients from their distant homes to the central hospital; but this difficulty will be increased to an insuperable degree if—as we hear in many quarters to be the case—a charge is to be made for admission. There is still much to be said in favour of local hospitals for the more isolated inhabited spots in large districts—say, for such as are over twelve miles from the central hospital. These small hospitals should be permanent structures, but could be closed when not in use, and opened at short notice when required, with the nucleus of a staff drafted from the centre, where a permanent establishment should be maintained. There can be no doubt that a reliable and authoritative memorandum advising authorities upon all points in connexion with isolation and disinfection is much needed. Plenty of excellent data exist, but they require to be codified in order to render them accessible and intelligible to those who have little opportunity of finding and digesting them in their present scattered and fragmentary condition. More uniformity is required in the lists of diseases for which isolation is professedly practised in various parts of the country. The time has probably come when public authorities might, with advantage, be advised respecting the nature and degree of benefit to be expected as a result of isolation, disinfection, and other kindred precautions in the case of particular diseases. A revision is certainly necessary of much that has hitherto been taught respecting the criteria for estimating the continuance or decline of infection, and the actual seat, or at any rate the principal seat or seats, of infection, in all stages of certain diseases, as, for example, small-pox and scarlet fever. Small-pox was on one occasion found by Dr. Boobbyer and some friends of his to have been conveyed by an erupting patient who a few days later in the scabbing stage appeared by strong negative evidence to have been incapable of communicating the disease. Scarlet fever, again, is often apparently propagated by a person whose skin is perfectly clear and normal, but whose naso-pharynx continues affected. The same disease also frequently fails to spread from an actively desquamating patient (though surrounded by susceptible persons) if the mucous surfaces have only been slightly invaded. The points of danger must be determined before personal disinfection can be effectively practised.

Dr. H. J. SPOTTISWOODE CAMERON (Huddersfield) said he hoped Dr. Boobbyer was not going to propose to hand medical men over to some central authority who would be empowered to dictate to them. With regard to the prevention of infection he laid stress on the necessity of making the isolation of the patient complete by removing all infected articles. Quite recently a return scarlet fever case occurred in Leeds. After the return of the isolated patient it was found that a doll which the first patient had played with at the commencement of her illness had been carefully put away till her return. It was given her when she came back, and her little brother who helped her to play with it developed scarlet fever himself. It was not necessary to insist upon the completion of desquamation before the patient returned, but catarrhal conditions of the pharynx, nose, &c., were occasionally overlooked, and mischief resulted. The necessity of isolating enteric fever in hospital was not very generally recognised by the profession. Even professional nurses had been known to treat discharges from such patients very inadequately. A little strong carbolic acid poured over a motion and washed away from it by the flush of the watercloset had been regarded as disinfection. The drains of a town ought never to become infected by typhoid fever. This could only be effected by keeping such imperfectly sterilised motions out of them. Few towns had adequate provision for the isolation of diphtheria; some general hospitals admitted such cases. If the stir which was being made as to the infectiousness of this disease was at all justifiable, surely authorities ought to provide for the isolation and treatment of this terrible disease. It should be remembered that cases were taken into hospital first to treat them, and secondly to protect the public. It was not right to remove patients from their homes under a magistrate's

order unless they could be provided with ample air space and other comforts.

Dr. BARWISE (Derby), speaking with reference to the advantage of a large central isolation hospital, said that it would be much cheaper to administer and build than a number of small ones. He could not agree with the suggestion that a five-mile radius should be the extent of an isolation area. It should be at least eight miles, and patients had been safely moved for twelve miles.

Brigade-Surgeon-Lieutenant PRINGLE expressed the opinion that small-pox hospitals were one of the greatest pests of civilisation. If it was necessary to compulsorily segregate every man, woman, and child it was the duty of medical men to see that they had every possible comfort, and that was the only way that confidence on the part of the public could be promoted.

Dr. RICHARDS (Birmingham) continued the discussion.

Dr. FRASER (Chelmsford) described a new apparatus for disinfecting blankets by steam.

Dr. CAVERHILL (Edinburgh) described the use of portable hospitals in Perthshire.

Dr. GOODALL dwelt upon the necessity of cleanliness on the part of nurses and ward servants and the adequate provision of space in the wards.

Mr. GROVES (Bournemouth) referred to the difficulty of getting district councils to expend money in erecting proper hospitals. He advocated the system of one central hospital, and did not see how the case of a patient comfortably placed in an ambulance could be prejudiced when taken six or ten miles any more than if he were taken one.

Mr. HUGH SMITH (Farningham) thought a patient could be removed for from ten to twelve miles without detriment to his case.

Dr. OGILVIE GRANT (Inverness) said he had known a patient to be carried twenty or thirty-five miles without harm.

Dr. BOND (Gloucester) concluded the discussion, and in his reply Dr. BOOBBYER said he was very far from recommending the erection of a central hospital for every individual locality; but in some cases—a colliery district, for instance—considering the facilities there were for the spread of epidemic disease, it would be almost impossible to remove ten to thirty patients a distance of twenty miles. What was required at the present time was instruction, and a great deal of the divergence on important matters of treatment and administrative work was due to lack of information ready to hand. The matter of house disinfection was one in which considerable instruction was desirable at the present time.

The Diagnostic Value of the Diphtheria Bacillus.

Dr. KLEIN, Lecturer on Physiology at St. Bartholomew's Hospital, then read a paper on the above subject. He commenced by laying down the proposition that in the majority of doubtful cases it is possible to decide whether the case is one of diphtheria if in the secretion or membranous exudation of the affected mucous membrane the bacillus diphtheriæ or the Klebs-Löffler bacillus is demonstrable, and that this bacteriological diagnosis is in most instances verified by subsequent events. Those who have had experience, he said, in examining the false membrane of true diphtheria cases, that is, of cases which from a clinical and epidemiological point are at once recognised as such, agree that in some of these cases the superficial layers of the necrosed mucous membrane—that is, of the false membrane—contain large numbers, occasionally in almost pure culture, of one and the same species of bacilli, aggregated in larger and smaller masses, separate, but more often grouped together. These are the Klebs-Löffler bacilli. A second group comprises cases which in clinical and epidemiological respects are undoubted diphtheria, which can be traced to an antecedent case of diphtheria, and in which the membrane or muco-purulent secretions contain a very variable number of the diphtheria bacilli; but they contain at the same time a very large number of other microbes which on cultivation prove to be chiefly cocci, staphylococcus aureus and albus, small streptococci, and chains of larger cocci. In these cases the number of diphtheria bacilli may be sufficiently large to be identified by their shape and grouping and to be easily recovered by culture, or they may be so limited as to be only identified by culture; but even then the chances of identification are not great if the bacilli are practically swamped by cocci—notably, streptococci; in these cases only after careful and extensive searching can the colonies of diphtheria bacilli be discovered, and I am under the impression that it is such cases which have given rise to the opinion occasionally expressed that in some diphtheria cases no diphtheria bacilli have been found. The third group of cases are those in which no obvious antecedent connexion can be established and in which the clinical history does not enable one to make a diagnosis. It is obvious that it is precisely in these cases that correct diagnosis is of the utmost importance. Now, if from the secretion of the fauces (in cases of faucial inflammation, follicular tonsillitis) or from the nose (in cases of rhinitis) diphtheria bacilli can be isolated, then the case must be pronounced to be one of diphtheria. In some such instances, and in conformity with other observers, I have found the diphtheria bacilli at an early stage, and the diagnosis was confirmed by subsequent events—namely, other cases of true membranous diphtheria followed in the same household, and the first individual developed afterwards symptoms of paralysis. Owing to the scarcity of bacilli in some such cases the diagnosis becomes sometimes extremely difficult. These cases are obviously of importance both to medical officers of health, as also to those who ask help from the bacteriologist In such cases occasionally, only by cultivation, and then only by very extensive searching, can colonies of diphtheria bacilli be discovered. In those cases in which, owing to the presence of a great number of other bacteria, chiefly cocci, the ordinary methods of tube cultivation are likely to fail in yielding evidence of the presence of the diphtheria bacilli, the following methods of culture seem better adapted for demonstrating the diphtheria bacilli. If on the examination of stained cover-glass specimens of the membrane or other secretion no definite evidence can be obtained of bacilli morphologically resembling the diphtheria bacilli, and if there are present large numbers of cocci and other microbes, agar plates are made in the following manner. Sterile bouillon agar in a tube is melted over the flame, and then poured out into an ordinary sterile plate dish; after the agar has set a piece of the membrane or secretion is rubbed, by the aid of a platinum loop, gently over the solidified agar surface in the whole extent of the plate dish, and the plate is incubated at 37° C., lid downwards. Next day the surface is found covered and bestrewn, as it were, with minute colonies—in many parts they are so numerous as to lie very close together; now all these colonies are on the surface, none in the depth, because the sowing has been performed on the surface of the agar already set. In an ordinary agar plate—that is, when the melted agar is inoculated, shaken, and poured out into a plate and allowed to set—a good many colonies, of course, come up in the depth and only a fraction on the surface, and it is these latter only which can be subjected to further microscopic and cultural examination; those in the depth are practically lost for such examination. Cultivations on the surface of agar or serum contained in tubes offer likewise great difficulties if very numerous colonies are present, because if amongst a crowd of colonies only a limited number of diphtheria colonies are present these obviously are easily overlooked.

Now these difficulties are overcome by the above surface agar plates, for in these almost every colony can be subjected to microscopic examination. Provided the sowing has been done by lightly rubbing the material over the surface of the agar in the plate all colonies are easily taken off by pressing against the surface of the agar a cover glass, that is, making impression preparations on a series of cover glasses from the agar surface, if necessary from the whole surface; the cover glass impressions are dried and stained; each is found covered with great numbers of dots, each dot being a colony. Subjecting the dots on the cover glasses to an examination with a power of 150 to 300, those that are made up of cocci can be easily distinguished from those made up of bacilli, and each one made up of bacilli can with high powers be readily identified as a colony of diphtheria bacilli by the shape and arrangement. Such plates, after having been used for impression specimens as above, are of no further use; but I think anyone with a little experience could recognise, when examining the agar surface with a magnifying power of 100 to 150, whether a colony is composed of diphtheria bacilli, and if so could under a simple microscope make sub-culture from such a colony. Lastly, there are cases of sore throat and membranous exudations in which even on most careful search no diphtheria bacilli can be recognised by culture. The purulent and membranous exudation in these cases is in morphological respects somewhat different from the true diphtheritic false membrane, inasmuch as it is composed of leucocytes

only; it does not contain the reticulated fibrinous matrix constituting the true diphtheritic false membrane; besides, in the former, when examined in the fresh state by means of films, the microbes, though sometimes comparatively limited in number, consist chiefly of cocci, and cultivations do not yield diphtheria bacilli. The cocci chiefly present in these cases are staphylococcus aureus and albus, and particularly streptococci. Such cases are recognised now as cases of pseudo-diphtheria or cocco-diphtheria, though in clinical respects they are not distinguishable from mild cases of diphtheria; as regards their sequelæ they are not difficult to distinguish from true membranous diphtheria, and, as stated before, they do not contain the true diphtheria bacilli. The culture test is also of importance in respect of the disappearance of the diphtheria bacilli from the previously diphtheritically affected mucous membrane or with regard to the presence or absence of these bacilli in the throats of persons that have been attending on, or have come in contact with, diphtheria cases; for if on diligent search by cultivation the bacilli cannot be demonstrated, it may be assumed that they are not present, though one should not be satisfied with a single examination. On the whole, then, the microscopic examination and culture test alone will be found to supply a valuable help in diagnosis, and where necessary it may be effectually controlled by animal experiment.

Dr. HERMANN BIGGS, Pathologist and Director of the Pathological Laboratory, Health Department, New York, discussed the same subject under three heads: (1) he recommended the examination of the throats of healthy persons who had been in contact with diphtheria, or who were inmates of institutions in which diphtheria prevailed, these examinations to be made with relation to prophylaxis, both with a view to the isolation of those in whose throats the diphtheria bacilli were found and to the immunisation with diphtheria antitoxin; (2) he recommended also examinations in cases of throat inflammations for diagnosis; and (3) examinations should also be made at short intervals during convalescence from diphtheria to determine the time of disappearance of the diphtheria bacilli from the throat. In connexion with this discussion he described briefly the methods employed by the New York City Health Department in making these examinations and the technique of the laboratory work. The paper was founded on experience gained from the examination of about 25,000 cultures by the New York City Health Department.

Dr. GOODALL (Eastern Fever Hospital), referring to Dr. Klein's paper, thought it unwise to use the term "pseudo-diphtheria" in cases where a bacteriological examination did not show the diphtheritic bacillus, as it would only give rise to confusion. He wished to ask Dr. Klein whether he had come to any conclusion as to the value of the short variety of diphtheritic bacillus. In regard to the value of a single cultivation, there were a number of cases in which no bacillus could be discovered. This, he thought, might in some way be caused by the method of making this cultivation, whether a swab was used or a platinum wire.

Dr. UNDERHILL wished to know what was the position as regarded notification where there was a total absence of clinical evidence, but where a bacteriological investigation showed the bacillus to be present.

Dr. KLEIN said when the bacilli are present it was perfectly justifiable to diagnose the case as one of diphtheria independently of their length. The virulence did not bear any relation to their length as far as his experience went. Roughly speaking, there were two varieties—one formed small transparent colonies and the other large opaque colonies. Each of these varieties were easily transmitted into the other, but as far as our present knowledge went it was impossible to say whether there were really two distinct varieties. There was no doubt that the use of the swab did make a difference, but he always used the platinum wire. Of course, if a physician sent the swab the best use had to be made of it, but he preferred a piece of membrane or a simple scraping from the tonsils, mucous, &c.

Dr. HERMANN BIGGS here introduced the subject of the value of antitoxin. After quoting some American statistics he concluded: "By the use of antitoxin it has been possible to completely stamp out diphtheria in four great institutions for children in which it was prevailing in epidemic form. In no instance has there been, so far as can be determined, any serious results from the administration of the remedy for this purpose. The duration of immunity is apparently no more than thirty days in many cases."

Dr. GOODALL thought, on the whole, there was no evidence to show that antitoxin had an immunisating power extending over a few days at least.

Dr. NEWSHOLME read a paper on the Extension of the Notification Act, in which he advocated the extension of the schedule of notifiable diseases.

PSYCHOLOGY.

THURSDAY, AUGUST 1ST.

Insanity in Relation to Criminal Responsibility.

The discussion on Insanity in Relation to Criminal Responsibility was introduced by Dr. MAUDSLEY in a paper of great interest, and characterised by breadth of view and vigour of expression. He alluded at the commencement to the repeated attacks that had been made on the law as it at present stands, and especially on the legal criterion of responsibility, which, he said, rested on an unscientific basis, and had been condemned from time to time by eminent judges. Few men, he said, having practical knowledge of insanity would assent to the proposition that an insane person is fully responsible for what he does when he knows the nature of his act, and that it is a wrong act. The sufferer may be tormented with an impulse to do what he knows and loathes as wrong, an impulse so strong that in former times it seemed only explicable as a positive possession by the devil. Yet their theory would have enacted from the man possessed by the devil and dispossessed by himself that he should possess himself all the same and master the devil in him, or else be punished for the devil's doings. We still act in the same irrational way, only substituting disease for devil. The test, he believed, is founded in wrong observation and bad psychology, observation of sane feeling as a measure of insane, and the assumption that reason is the motive force of human action. Reason cannot always control the desire when it knows its good or bad quality, and can appreciate the right or wrong of it. Sir James Stephen would have us say that if a man cannot control himself he does not properly know the nature of his act. Such a test could cut in different directions; it might prevent a madman from being punished for a crime which not he, but his madness, had done, or it might get him hanged for being mad. The test is too metaphysical, even if it were true. Its effect is to bias the judgment of the jury by a prejudgment of facts, and it is a procedure of doubtful legality, inasmuch as it enables the judge to lay down a particular test of disabling mental disease. For are not all the symptoms of mental disease and all the tests of its existence, and of its degree of existence in a particular case, properly facts for the jury? If so, then the imposition of a special test is an interference with the province of the jury and prejudicial to a fair trial. The court could, however, give help to the jury, if it were so minded, by taking means to inform the jury concerning the nature of the particular form of mental disorder in question and the extent of its damaging effect on the mind; or by providing impartial and competent scientific evidence, or by appointing an assessor to appraise the value of conflicting scientific evidence, as is done in a question of navigation. In short, these charges against the present system are: (1) that the court has no more right in law to set up a special test of responsibility in a case of mental disease than to set up a particular chemical test in a case of poisoning; (2) to do this is to give important evidence to the jury without permitting the evidence to be cross-examined or contradicted; (3) the evidence so given is bad, for the test is wrong in fact and based on unsound psychology; (4) it can be made decently workable only by construing it in an unnatural sense and ordaining that words which say one thing clearly shall mean another thing obscurely; and (5) the court makes no provision to secure impartial scientific evidence, but requires or allows the parties in the case to ransack the medical highways and byways in order to obtain contradictory evidence with which to confound a jury ignorant of its meaning. What actually happens now is a condemnation of the present system, for after a person about whose mental state there is some doubt is condemned to death, then competent medical knowledge is summoned to give the impartial help which should have been given at the trial—to undo privately what has been done publicly; and in certain cases medical examination is made into the mental state of an accused person, and he is

sent to an asylum and robbed of his right to be tried by a jury. From the legal standpoint the present system is open to criticism. Lawyers think medical men are too ready to discover insanity, and from the conflicting evidence which is brought in a given case—much of it worthless, and which would be rejected by an assessor—they are apt to think that there is no such thing as exact medical science or exact medical honesty. The habit also of discussing responsibility in relation to insanity in the abstract justifies legal criticism, for insanity is no definite and constant entity. Dr. Maudsley then went on to protest against the lamentable extravagances of the latest school of criminology, which "may make the vulgar stare, but make the judicious grieve." A criminal nature which is degenerate is one thing, but to say that all criminals are degenerate and bear the stigmata of degeneracy is another, and a false, thing. Crime should not necessarily be degeneracy. A murderer might be a nobler animal than a Pecksniffian saint, and a murderer on a sufficiently large scale is considered by some a hero. External circumstances must be taken into account in relation to criminals; and in regard to degeneracy, much has lately been done to rob it of definite meaning by stretching it to cover all sorts and degrees of deviation from an ideal standard of thinking and feeling; deviations that are no more serious marks of degeneration than long legs or short legs, long noses or short noses. Words and theories, he thought, should be swept away, facts only regarded, to end the conflict between law and medicine. As witnesses medical men have nothing to do with the right or wrong of the law, although as citizens they may criticise it. The legal test of responsibility has been criticised and condemned for years, but it is not abandoned. It has been condemned by the best, magnified only by the worst judges. The late Sir James Stephen had interpreted it in such a way as to include practically all that medical men ask for. If it really includes (1) knowledge of the nature of the act, (2) knowledge that it is wrong; and (3) control of conduct; it is a pity that all judges do not understand it properly, and that he himself did not take steps to have it tested. Perhaps, although direct and thorough in thought about some things, still in legal matters he loved the good old way of the English mind —to keep the old names when the meaning had been taken out of them, or a new and perhaps opposite meaning put into them, to accept the gradual dissolution of the substance of a belief so long as the label of it was left intact.

Dr. NICOLSON uttered a warning against any alteration in the present law without due consideration.

Dr. UEQUHART thought it would be best to have a case referred to the Court for Crown Cases Reserved.

Dr. MERCIER denied that any actual injustice had been done under the present system.

Dr. WEATHERLY said that if justice is done it is only done in the condemned cell, and after the injustice has been inflicted. All judges should have full medical evidence, and it should be remembered that there are many cases, not capital, in which the plea of lunacy should be urged.

Dr. NORMAN KERR remarked on the law as affecting cases of alcoholic insanity.

Dr. SAVAGE alluded to the dangers of the new school of criminology, and stated that all the facts in reference to insanity should be brought out at the trial, and not, after sentence has been passed, on reference to the Home Secretary. It should also be brought out whether the crime is related to the insanity. Although a man was insane enough to believe that the moon was made of green cheese it would be no excuse for his murdering his grandmother.

Dr. CLOUSTON held that actual injustice was committed in condemning a man to death for a crime committed when he was insane, and referred to the more reasonable methods prevalent in Scotland. He protested against the depreciation of criminology as a science. No doubt various absurdities were perpetrated in the name of criminology, but he held that as a science it was capable of much development and usefulness.

Dr. SHUTTLEWORTH referred to the difficulties arising in the case of crime committed by persons of defective development.

Professor BENEDIKT referred to the place alcoholism and sexual perversion occupies in reference to crime.

Dr. YELLOWLEES expressed the opinion that insanity is a matter of degree and that there is such a thing as partial insanity, which should be recognised.

Dr. USHER referred to the mode of procedure in Australia.

Dr. OSCAR WOODS and Dr. DOUGLAS also spoke as to the unsatisfactory character of the law as at present administered.

Dr. RAYNER suggested that a question should be addressed to the Home Secretary in Parliament in reference to each case as it occurred.

Dr. MAUDSLEY briefly replied to the effect that injustice is undoubtedly done by a parade of justice, and urged the abandonment of the right and wrong test.

The Operative Treatment of Idiocy.

Dr. SHUTTLEWORTH read a paper on this subject, in which he expressed a strong opinion against operative measures being undertaken in cases of microcephaly. The premature synapsis he regarded not as a cause of the brain defect, but as an associated defect or perversion of development. In certain cases of local epilepsy and in some cases of hydrocephalus operation might be indicated, and it might also be justifiable in certain cases of congenital syphilitic brain disease.

Dr. FLETCHER BEACH expressed agreement with Dr. Shuttleworth's view that craniectomy is useless for the relief of microcephalic idiocy. He thought, however, it might be useful in some traumatic cases and in cases of hydrocephalus and hypertrophy of the brain.

Dr. TELFORD SMITH referred in a few words to one of the cases related by Dr. Shuttleworth. In this case no less than five operations on the skull had been performed by Professor Horsley. The patient was now less restless and more obedient, but an undoubted idiot, and what improvement was manifested was not more than would be expected as a result solely of the educational treatment that has been employed.

Dr. SHUTTLEWORTH briefly replied.

Insanity of Conduct.

Dr. SAVAGE next read a paper on Insanity of Conduct. He pointed out that there is often more disorder of the conduct than of the speech or writing in the insane. An act may be a symptom of insanity apart from any apparent intellectual defect, but the law takes little cognizance of this. Greater latitude should be given in certificates for the history of insane actions. Moral insanity has a real existence and is a division of the insanity of conduct. Insanity of conduct is seen in some so-called hysterical cases, and the case of a girl was quoted whose insane conduct consisted in the writing of numerous anonymous letters to friends and acquaintances, and also to herself, presumably to divert suspicion, while all the time she was following an apparently normal and correct course of life. It is also seen in poets, inventors, and in many geniuses as a stage of other mental disorder, as mania or melancholia, in degenerative or senile states, and as a result of chronic insanity. It may also occur with some form of so-called monomania, such as kleptomania. On the other hand, there are certain persons whose conduct is perfect, and yet who are defective intellectually, as in the case of a young man of good family, whose outward appearance and conduct were irreproachable, yet who was totally unable to learn to read or write.

Dr. CHARLES MERCIER, who was associated with Dr. SAVAGE in this paper, gave an account of the case of a man who had had a brilliant university career, who afterwards attained a distinguished eminence in his profession, filling several appointments with ability and success, and giving evidence of the possession of exceptional intellectual attainments. At length something happened which compelled him to retire from his profession, and he now eschewed entirely the society of his equals in social standing and lived in a solitude relieved only by the companionship of the family of an old servant, and broken by occasional outbreaks of debauchery and the grossest sexual perversions and excesses. It was impossible to certify him, but after one of his debauches he was in a condition to be certified, and was admitted on an urgency order. The magistrate, however, refused to make a judicial reception order, the signs of insanity due to drink having meantime disappeared. Subsequently he became the subject of an inquisition in lunacy and there being no real opposition on the part of the patient, whose only alternative was a conviction at the Old Bailey, the Master in Lunacy found him insane. His insanity was shown in his conduct, also in the matter of letter writing. This was successively and unnecessarily voluminous; he filled sheets with descriptions of the most obscene and revolting character, and even after he was the prey of blackmailers he allowed letters to come into their hands which increased and strengthened their hold

upon him, and he placed himself entirely under the care and direction of a young lad. Besides being manifested in such cases, the insanity of conduct, Dr. Mercier said, is also shown in such cases as those of imperative ideas described in a paper of the late Dr. Hack Tuke, and in conclusion the following propositions were stated for debate: 1. That there are cases in which insanity is evinced by conduct and cannot be established from mental disorder alone. 2. That there are cases in which disorder of mind exists without insanity. 3. That therefore insanity is not essentially a disorder of the mind, nor ought insanity and unsoundness of mind to be used as convertible terms. 4. That our conception of insanity is not complete until it is understood to include as a necessary and integral element disorder of conduct.

Dr. BEDFORD PIERCE questioned whether Dr. Mercier's use of the word "mind" was not too limited.

Mr. CONOLLY NORMAN also said he would prefer to substitute the term "intellect" or "intellectual powers," and he referred to a case in which perpetually repeated acts of bigamy constituted the main evidence of mental aberration.

Dr. HICKS and Mr. HAYES NEWINGTON also spoke, and Dr. SAVAGE and Dr. MERCIER replied.

PHYSIOLOGY.

THURSDAY, AUG. 1ST.

The Physiological Section met in the Laboratory of King's College, under the presidency of Dr. FERRIER.

In opening the discussion on

The Mechanics of the Cardiac Cycle.

Professor J. BERRY HAYCRAFT—whose observations were made in conjunction with Dr. PATERSON—considered that it would be more convenient to limit the discussion to certain definite points. Those selected were: (1) the change in the shape of the heart during diastole and systole; (2) change of position of the heart in the chest; and (3) to inquire whether the papillary muscles acted synchronously with the ventricle. Professor Haycraft pointed out that the inference from the forward movements of the lever, that the diameter of the heart was increased antero-posteriorly during systole, could be shown to be untenable, because a result of the lever sinking into the heart during diastole was to push it out during systole in all directions, which would lead to the absurd conclusion that the systolic heart was increased in all diameters. On the other hand, observation of the frog's heart on measured spaces showed the diastolic heart to be larger than the systolic heart, and a pin in the anterior wall of the heart might be observed during systole to move inwards. Frozen sections were exhibited of the thorax of a dog which showed the relative diminution and expansion of the systolic and diastolic heart. In this connexion the interesting fact transpired that in death by strophanthin, digitalin, barium chloride, and heat the heart died in diastole, contrary to what we know to be the case in the frog. Death in systole was obtained in the dog by the intravenous (jugular) injection of a small quantity of corrosive sublimate. Measurements were given of the systolic and diastolic heart, which showed the former to be smaller in all directions. As regards the position of the acting heart in the chest, it was maintained that gravitation was a potent factor, the heart sinking in obedience to gravitation in any position and springing up from it during systole. This was demonstrated with the limelight shadow of the frog's heart held by forceps. Measurements of the position of the heart at the base, middle, and apex were given. Contrary to those who maintained that the papillary muscles act *after* the ventricle, Professor Haycraft showed that when the attachment to the valve is divided and precautions taken to obviate error the action of the papillary muscles and of the ventricular wall is synchronous. Dr. Paterson and he had found, however, that if these observations were not quickly made that in the dying heart the papillary muscles tended to contract after the ventricle.

Professor FOSTER said that the form of the heart varied, according as it was noted at the beginning, middle, or end of the contracted period. As muscular fibre does not change in bulk during contraction he believed that change in the form of the organ was due to the escape of blood. He asked Professor Haycraft how he explained the fact that when the lever was not pressing on the heart it was thrown up during systole.

Dr. GIBSON of Edinburgh showed tracings from the Conus Arteriosus of a Heart exposed by fissure of the sternum. Auscultation and ocular observation were carried out at the same time in this case. In this case there was antero-posterior increase before expulsion, during expulsion a slight pause, and a double set of vibrations during the second sound. One ventricle ceased its contraction a little before the other, hence the mechanism of reduplication of the second sound. He agreed with Professor Haycraft as to change of position of the heart being due to the position of the animal.

Dr. SPENCER concluded from his observation of two cases in which the heart was sufficiently exposed that there was a considerable twisting movement when the heart acted. He questioned whether the artificial production of systole by corrosive sublimate was not in excess of normal systole, and therefore fallacious.

Dr. PATERSON referred to Hesse and Krehl's opinion as to the importance of the papillary muscles in controlling the valve segments, and argued that this function would be impossible without their action being synchronous with that of the ventricle. He admitted that some twisting movement was observable when the heart acted.

A Member urged that it was evidence of antero-posterior increase during systole that the apex beat was more observable when the patient was placed in the knee-elbow position.

Professor HAYCRAFT, in replying, pointed out that the heart was heavier than the lungs and tended to displace the latter. During diastole in the above position it would fall forward and flatten out, becoming tense in systole, but not necessarily of increased antero-posterior diameter. In reference to Professor Foster's remarks, he said that there might during the first period of systole be a very slight increase, but he was not in a position to give an opinion on the point. During the greater part of systole he believed the antero-posterior diameter of the heart to be diminished. Tracings taken of the frog's heart without the lever pressing upon it showed that the diastolic curve was greater than when the lever touched the heart, but that the systolic rise became a fall.

Trophic Lesions following Section of Sensory Nerves.

ERRATUM.—We regret that in the report of the discussion that followed Dr. Turner's paper upon the Results of Section of the Trigeminal Nerve Dr. Mott is said to have referred to experiments upon the effects of *destruction of the spinal cord*, &c. This is not so. Dr. Mott referred to an important paper which Dr. Sherrington and he had read before the Royal Society, entitled "Experiments upon the Influence of Sensory Nerves upon Movements and Nutrition of the Limbs," published in Vol. LVII. of the Proceedings, a brief abstract of which we subjoin. Section of posterior roots in sufficient number to render a limb *apæsthete*—that is, the "whole series" in the brachial region from the fourth cervical to the third or fourth dorsal inclusive; in the lumbar from the second to the tenth post-thoracic were divided in monkeys, produced a remarkable effect upon voluntary movement of the limb thus deprived of its afferent channels to the spinal cord. "From the time of performance of the section onwards, as long as the animal may be kept, the movements of the hand and foot are practically abolished; the movement of grasping, which is so frequent and useful to the monkey both with the hand and foot, never occurs at all in our experience. On the other hand, the movements at the elbow and knee, and especially the movements at the shoulder and hip, are much less impaired." "The movements which are represented most literally in the limb area of the cortex are extremely severely impaired, and in some instances are entirely abolished." Yet on stimulation of the cortex centri all the movements of that limb are obtained as readily as in the other sensitive limb, thus proving that the pyramidal system has not been injured in the cord. The loss of movement is therefore not due to this cause; whether it is the loss of tonus of the muscles or the absence of all guiding sensations necessary for the initiation and continuance of movement is not determined, but the writers are of opinion from their experiments that the loss of sensibility in the skin and deep structures is of more import than the loss of afferent impressions from the muscles. Dr. Bastian has contributed an important communication upon the subject of this paper to the same volume of Proceedings, in which he differs from the *inferences* of Dr. Mott and Dr. Sherrington, although he accepts the facts. It was also found that if one root to the apex of the limb be left and all the rest

divided—e.g., the eighth cervical distributed to the whole extent of the hand—a certain degree of impairment of movement occurs which gradually becomes less; but the impairment often requires careful observation to notice it. Effect on nutrition: Section of the posterior roots in the lower limb was followed after a time by an ulcer on the outer malleolus; section of posterior roots in the upper limb never led to such a change. These facts show, in the opinion of the writers, that the apparent trophic change in the lower limb may more justly be attributed to the liability to pressure and microbic infection. No change in the hand was ever noticed which in the least indicated trophic disturbance. "Wounds accidentally inflicted by the animal itself or its companions on the apæsthete part healed readily when dressed." Other facts of interest are noticed in connexion with the onset of rigor mortis, length of time the motor nerves can be excited after death of the animal, and resulting degeneration.

ANATOMY AND PHYSIOLOGY.

THURSDAY, AUG. 1ST.

Development and Structure of the Placenta.

The discussion upon this subject was opened by Professor ALFRED H. YOUNG, of Owens College, Manchester, who said:

One of the most important features in the development of the placenta is the part played by the fœtal tissues, the fœtal epiblast in particular; and this is the more noticeable as it is opposed to the views hitherto almost universally held. It is true that in the early stages the uterine mucosa increases in thickness, its glands become enlarged and more tortuous, the interglandular substance proliferates, and foldings of its surface may produce crypts. The glands and newly-formed crypts, so well marked in the carnivora, play but a secondary part in the further stages; they merely dilate, and their epithelial lining degenerates and disappears, serving apparently as pabulum for the fœtal tissues. The secondary importance of the glands of the mucosa is emphasised by their fate in the placental areas in rodentia, insectivora, and cheiroptera, in which they undergo little or no increase, and in the later stages are entirely occluded (from the fœtal tissues) by cell elements apparently derived from connective tissue or by endothelial cells. The most important maternal structures are the capillaries; these proliferate and dilate and form a more or less well-marked superficial layer immediately subjacent to the surface of the ovum. The fœtal part of the placenta, on the other hand, is energetic and aggressive. Its epiblast proliferates and becomes greatly thickened and apparently destroys and absorbs the maternal epithelium, though Strahl and Lusebrinck assert that the maternal epithelium persists, though in a changed form, and continues to intervene between the epiblastic cells of the chorion and the deeper maternal tissues.

[Professor Young next referred to the invasion of the uterine mucosa by the epiblast, pointing out how in rodents the epiblastic cells replace the walls of the maternal capillaries. He continued:]

To summarise: the structures which intervene in the placenta between the fœtal and maternal blood streams are not the same in different groups of mammals. Confining our attention to the two groups which have been most thoroughly investigated we see that in the carnivora the fœtal blood is separated from the maternal by three layers: (1) the endothelium of the maternal vessels; (2) a layer of fœtal epiblast, which generally contains two rows of nuclei and is not divided into cell areas, but is of the nature of a plasmodium; and (3) the endothelium of the fœtal vessels. In rodents, however, according to Duval's observations, there may be only a single intervening layer separating the two blood streams, and that is the endothelium of the fœtal vessels. We thus arrive at the following conclusions concerning placental development and structure: 1. Fœtal tissues play a most important part in placental development; they invade, destroy, and devour maternal substance. 2. The maternal tissues pass through three phases; they exhibit a remarkable activity before the fixation of the ovum. This is succeeded by what may be looked upon as an irritative proliferation due to the invasion of fœtal epiblast, and finally they disappear in great part coincidently with the epiblastic advance. 3. The relationship between the fœtal and maternal blood streams may be much more intimate than has usually been believed; and in any case the intervening structures are chiefly fœtal. 4. The uterine glands and crypts play a comparatively unimportant part in the placental area; they are not penetrated to any great extent by fœtal villi, but their epithelium degenerates and disappears, and is utilised as fœtal pabulum, except at their terminal extremities, where it remains almost unchanged to serve for the regeneration of the surface after parturition. These general facts, which have been established by observations on lower mammals, enable us to form a fairly definite conclusion regarding the layer of epithelium which forms one of the intervening strata between the two blood streams in the human placenta, and there can no longer be any doubt of its fœtal origin; it is certainly fœtal epiblast.

[Professor Young then proceeded to consider the formation of the allantois, and continued:]

In the meanwhile it is evident that there are many points relating to the development and structure of the placenta which may well be discussed both by the embryologist and the histologist, and beyond this also by the pathologist and the gynæcologist, who will find in the developmental history of the placenta the keynote to many obscure problems of uterine and placental disease. One cannot, e.g., fail to observe the remarkable similarity between the early stages of placental formation and those seen in the development of malignant epithelial tumours. In both there is epithelial proliferation followed by epithelial invasion and accompanied by irritative phenomena in surrounding tissues. During placental formation the maternal tissues are invaded by fœtal epiblastic cells much in the same way that the subepithelial stratum of skin or mucous membrane is encroached upon by proliferating epithelium in cancer formation, and it would not seem impossible that normal placental epithelial changes might, under certain circumstances, lead to true carcinoma. There can be little doubt that the fœtal epiblast grows at the expense of the maternal tissues, and there seems no reason why any portions left behind on the separation of the placenta should not continue to grow and, invading still further the uterine mucosa, assume all the characteristics of a definite tumour growth. I ventured to draw attention to this point in a paper read before the North of England Gynæcological Society some three or four years ago, and I then referred to the most interesting case recorded by Dr. H. Meyer of an epitheliomatous growth which followed the removal of a hydatiform mole. The epitheliomatous character of the new growth was clear, and the resemblance of the invading columnar processes to chorionic villi, as previously pointed out by Professor Klebs, was apparently fully recognised; but nevertheless Dr. Meyer suggests that the epithelial element was probably of maternal origin and that into it chorionic villi had protruded. This, however, does not seem a probable sequence of events, whilst the changes which are known to take place in the development of the placenta give strong support to the view that the epithelial element was in all probability fœtal. This, again, is emphasised by a similar case described by Fränkel as "carcinoma developing from the chorionic villi." This case was one of malignant disease of the corpus uteri following the removal of a vesicular mole. "The growth had a papillary form, invaded the deeper tissues, and gave rise to metastases. Microscopically it was shown to have originated from the remnants of chorionic villi left after removal of the mole, since the structure of the uterine glands was still recognisable, and its histological appearance was quite different from that of cancer of the corporeal endometrium." That uterine tumours may originate from placental relics is fully recognised by Hartmann and Toupet in their valuable memoir on the "Later Evils Following Retention of Placental Relics." Dr. Eden, in a preliminary communication on the development and normal structure of the placenta, states that the large decidual cells are really epiblastic cells, and if this is so the sarcomatous character of the tumour becomes more than doubtful. Clearly the study of abnormal conditions occurring in connexion with placental formation should be based upon accurate observations on the development and structure of the normal placenta. With a fuller knowledge of the structure of the placenta and of the exact relationship of the fœtal and maternal blood streams we shall understand better the important question of the transmission of disease between mother and fœtus. In short, a wide field for experimental observations will be open, and it is by such observations alone that we can hope to obtain satisfactory results.

Mr. ROBINSON, Mr. LOCKWOOD, and others, including

the PRESIDENT took part in the discussion, and Professor YOUNG showed a very complete series of embryonic sections under the microscope.

Mr. MANNERS SMITH read a paper on the Anatomy of three Symmelian Monsters, illustrated by sketches of the examples in question.

Mr. PARSONS and Mr. ROBINSON discussed the subject, and the latter inclined to the theory that arrested development is the essential cause of the deformity rather than a tendency of parts to fuse which Mr. Manners Smith supported.

A paper by Dr. GRIFFITHS was read on the Anatomy of the Genito-urinary Apparatus of the Pig and Boar, and showed that castration exerts an all-important influence on the growth and development of the accessory sexual glands, and that the full development of striped muscle around the urethra is dependent on the full development of the testes.

FRIDAY, AUG. 2ND.

The Topographical Anatomy of the Abdomen.

A discussion on this subject was opened by Professor THOMSON of Oxford University. After referring to work done by Mr. W. Anderson and Professor Cunningham on this subject, Professor Thomson reviewed the present systems and criticised the generally accepted one as put forth in Quain's Anatomy, in which the nomenclature of the regions does not correspond to the regions proper. In hopes of forming a new system the following fixed points were taken: (1) the centre of the articulation between the lower end of the sternum and the ensiform cartilage; (2) the anterior superior iliac spines; (3) the most dependent part of the tenth costal arch; and (4) the symphisis pubis. Of these the costal arch is the most unsatisfactory on account of its variability; but for want of a better substitute Professor Thomson determined to adopt it. By joining the given point on the sternum with the point corresponding to the anterior-superior spine of the ilium a triangle is formed the base of which corresponds to a line joining the two spinous processes, and called the inter-spinous line. A transverse line is also drawn through the most dependent part of the tenth costal arch and called the subcostal line. The importance of the middle line was also pointed out, which, although continually employed in clinical work, has not before been made use of in this country for anatomical delineation. Further explanation was also given for applying this system to mapping out the regions from the back, and some German systems were criticised, especially with regard to curved lines, which Professor Thomson thought should never be used.

In the discussion which followed Mr. MAKINS remarked on the utility of the outer border of the rectus muscle as a surgical guide. Mr. LOCKWOOD thought that all artificial lines should as far as possible be done away with, and use made only of natural lines and points. Mr. W. ANDERSON thought the drawback to any new plan was the difficulty in getting it universally adopted. Professor THANE, Dr. WILBERFORCE SMITH, and Dr. BLACK also joined in the discussion, after which Professor THOMSON replied.

Synostosis of the Pre- and Meso-sternum.

Twelve examples of this condition were quoted by Dr. KEITH, four of which were in negroes or negroid people. It is much more frequent in anthropoids than in man, and the variation may be called one of anthropoid character, and its occasional occurrence among men, gorillas, or chimpanzees may be variously interpreted. It may be regarded as indicating only a developmental aberration brought about by unknown circumstances, or it may be supposed that the ancestors of man, the gorilla, and chimpanzee were, like the gibbon, adapted for brachiation as a chief means for progression. Dr. Keith did not, however, think that the occurrence of such a variation as this in the various genera of the anthropoidea necessarily indicated community of descent.

Mr. GRAVES STOKER showed an interesting specimen of a floating liver.

Mr. HIGGINS gave a demonstration on the mechanism of the knee-joint, and illustrated by specimens the various points of contact in different positions of the joints.

Mr. STANLEY KENT showed by means of lantern-slides the anatomy and histology of the genital organs of an hermaphrodite dog, in which both sets of organs were very fully developed.

PATHOLOGY.

THURSDAY, AUG. 1ST.

Peripheral Neuritis.

The debate on this subject was introduced by Dr. SEYMOUR J. SHARKEY, physician to St. Thomas's Hospital. He said: Peripheral neuritis has only engaged the attention of our profession in recent years. The symptoms produced by the disease have long been known, and Graves even suggested in a very pointed manner that they had their origin in disease of the peripheral nerves; but it was only in 1864 that definite proof was given by Dumésnil that such a pathological condition was the cause of the symptoms in the disease now named peripheral neuritis. As might be expected when a new field like this was opened up, a very large number of conditions previously not understood were attributed to this cause, and it can scarcely be doubted that the list of diseases at present referred to inflammation of the peripheral nerves will have to be curtailed. The subject, indeed, is still in its infancy, and many conditions which are supposed to be due to peripheral neuritis have not yet been proved to be so. Any member, therefore, of this Association who can afford fresh proofs of the existence of neuritis in disease will make a welcome addition to our pathological knowledge. It would be well to consider, too, whether we have not been trying to draw too sharp a line between the peripheral and the central nervous system; whether we have not been too anxious to limit the pathology of many of these diseases to the nerves, while the various agents which produce them cause alteration in the centres as well. Such poisons as alcohol and lead, the poisons of acute specific diseases such as influenza, and many others too, are certainly productive of widespread central changes, at the same time that they specially affect the peripheral parts of the nervous system. One of the most important points for discussion is, in my opinion, the legitimate use of the term "peripheral neuritis." What anatomical changes do we consider as proof of inflammation? Are we justified in speaking of a change in nerves as inflammatory in the absence of those vascular phenomena which are usually looked upon as proof of inflammation? In reading the reports of cases of peripheral neuritis it will constantly be noticed that the pathological condition found post mortem was segmentation and breaking up of the medullary sheath and nothing more. This is called "parenchymatous neuritis." In other cases nothing at all is found to prove what the nature of the case was, but it is argued from the presence of some of the symptoms that occur in undoubted neuritis that the disease is neuritis. Would it be more correct to speak of peripheral nerve intoxication where the post-mortem find is negative, as in rapidly fatal cases of Landry's disease, for example; of peripheral nerve degeneration where the only change is breaking up of the white sheath of Schwann; and of peripheral neuritis when the vascular phenomena of inflammation are present as well? The granular degeneration of muscles, whether fatty or albuminous, and that of many cells in the body, such as those of the liver, is not the result of inflammation only. Why, then, should breaking up of the medullary sheath into droplets be called neuritis? It may or may not be true (and this is a question with regard to which we might hope to elicit some fresh information) that we cannot separate clinically the cases where the medullary sheath is broken up from those in which an inflammation of the fibrous sheath of the nerve is evident as well. Still, it may be possible to do so some day. If this distinction between nerve degeneration and nerve inflammation were made, many cases now termed neuritis would receive a more reasonable explanation as cases of degeneration—such cases, for instance, as are now sometimes classed as "dyscrasic peripheral neuritis" being found in cases of anæmia, cancer, senile conditions, &c. While we are considering the propriety of separating cases of nerve degeneration from cases of nerve inflammation a very important question suggests itself. Have the changes which the peripheral nerves undergo after death been carefully investigated? Are they not principally changes in the medullary sheath, and changes resembling those attributed now to parenchymatous neuritis? One reads of cases where parenchymatous neuritis has been observed post mortem, though there was no clinical evidence of disease of nerves during life. In such cases the suspicion naturally arises in the reader's mind that post-mortem changes may have been mistaken for pathological conditions. Any pathologists who can contribute definite information as to the changes which occur

after death in the peripheral nerves, and particularly as to the rapidity with which they occur, will have made a very important contribution to this discussion. It is a somewhat remarkable thing that in multiple neuritis the terminal portions of the nerves are nearly always first affected. Why is this? May it be partly because they are so delicate in structure, partly because in their peripheral ramifications they cover a much larger area than they do when collected into bundles, and so are more exposed to the poison circulating in the capillaries; partly, perhaps, because they are furthest removed from the nerve cells on the energy radiating from which their health certainly depends? Another very interesting point is the special affinity which certain poisons seem to have for certain nerves. It is true that in cases of intense or prolonged poisoning the effects on the nervous system may be very widespread. Yet it is none the less true that in alcoholic neuritis the extensor muscles of the limbs, and especially of the legs, almost invariably first fall a prey to the poison; in lead, the extensors of the fingers and wrists; in diphtheria, the muscles of the throat and internal muscles of the eye. Still more remarkable is it that the selective power of these toxic agents may exert itself on the motor filaments or on the sensory almost exclusively. In lead-poisoning, for instance, sensory alterations are hardly complained of at all, and the same is often true of diphtheria, whereas in cases of alcoholic neuritis a stage of the most acute sensory disturbance may long precede the advent of paralysis. Indeed, there is some ground for supposing that even the trophic and vasomotor nerves may be specially picked out in some cases. The pathology of Raynaud's disease is not yet satisfactorily established; but there are certainly grounds for supposing that the remarkable vascular and trophic changes which characterise this affection are the result of disease specially affecting the vascular and trophic nerve filaments or the centres from which they radiate. Can anyone throw light upon the meaning of these interesting phenomena? The electrical reactions of nerves and muscle are frequently altered in the diseases under consideration, but it cannot be said that we yet know as much as we might about the value of the so-called reaction of degeneration. The alterations which occur are very variable, sometimes being but slight, sometimes profound. In the latter case they indicate, no doubt, a very marked disorganisation of nerve and muscle. But what do the slighter changes indicate, or even their absence, as regards the pathological changes in the nerves? Can they be utilised for the purpose of distinguishing between nerve intoxication, nerve degeneration, and nerve inflammation? The discovery of neuritis as a definite pathological condition has led to the removal of many paralytic affections from the category of spinal cord diseases. We now place them under the heading "peripheral neuritis." For the diagnosis of these affections we have relied largely on the simultaneous involvement of motor and sensory functions, as proving that a disease which produces paralysis and atrophy of muscle cannot be due to an affection of the anterior cornua of the cord only. But now that it has been shown that these atrophic paralyses can result from disease of the peripheral nerves when the motor filaments are specially picked out the question must be asked: Have we any means at present at our disposal which enables us to distinguish between anterior cornual disease and peripheral nerve disease? Again, cases of paraplegia due to an extensive affection of the spinal cord, in which, nevertheless, there is no alteration in sensation, are not uncommon, and similar affections of the spinal cord and its surroundings may result in paraplegia with pain and sensory disturbances. How can we distinguish such diseases of the spinal cord from peripheral neuritis? We have generally relied upon the presence of an affection of the sphincters in the former and its absence in the latter. This, however, is not a safe criterion. I have myself lately had a case of painful paraplegia under my care in which the sphincters were involved, and in which nothing was discovered at the post-mortem examination. On microscopic investigation of the nerves proceeding from the pelvis an intense neuritis was found. We have, therefore, to consider how we can advance the diagnosis of these conditions in order to put it on a level with our present knowledge of the pathological changes which lie at the root of them. Another question which needs discussion is that of the cause of the peripheral neuritis and muscular atrophy which occur in association with joint disease. This has not yet received a satisfactory explanation. Is it due to some reflex effect on the cells in the nerve centres which preside over the nutrition of these muscles; or is it a secondary local effect of the inflammation of joint; or do both the neuro-muscular and joint changes own a common cause? The significance of the absence of the knee-jerk, which occurs in many cases of diabetes, together with the occasional presence of other symptoms suggestive of alteration in the peripheral nerves, is worthy of further consideration. Are these phenomena due to nerve intoxication produced by some poison manufactured in the body by disease? Are they the result of simple degeneration of nerves and breaking up of the medullary sheath, or do they owe their origin to genuine peripheral neuritis? Again, can anyone produce further evidence of the cause of Raynaud's disease? The fact that tetany has also been attributed by some to peripheral neuritis suggests another question, Does peripheral neuritis give rise to spasmodic affections? As a rule it certainly does not, but the cramps, muscular twitchings, tremors, &c., of the earlier stages of alcoholic neuritis suggest that spasm may possibly sometimes result from peripheral changes in the nerves. I would ask, however, whether a prolonged tonic spasm is not more likely to be caused by changes in nerve centres than by changes in nerves? We might hope to have this question answered by pathological anatomy, but it is far from improbable that a nerve intoxication may be the cause of tetany and may leave no alterations in the neuro-muscular apparatus which are capable of demonstration by our modern methods of examination. Up to the present time most of the observations and investigations which have been carried out for the elucidation of the subject of peripheral neuritis have dealt with disease of the cerebro-spinal nerves. The vagus is not infrequently diseased and gives rise to marked and even fatal cardiac disturbance. A few observations have shown that the terminal distributions of nerves in the substance of the heart are liable to alterations which probably play an important part in some cases of serious cardiac disease. But if it has been shown that few, if any, of the cerebro-spinal nerves are exempt from pathological alterations resulting in sensory and motor disturbance, is it not probable that the sympathetic nerves may be equally vulnerable? May not many of the so-called functional disturbances of the viscera, with their neuralgias and disorders of secretion and metabolism, owe their existence to temporary nerve intoxication, to nerve degeneration, or to nerve inflammation? Here is a wide field, indeed, for investigation, and communications on this point would be welcomed by all pathologists and physicians. In the short space of time which has been allotted to me for the introduction of this debate I have called attention to a few points upon which I, at any rate, would like to hear the views of others. But the disease "neuritis" suggests a far larger number of questions of interest than have been touched upon, and questions, too, which may appear of greater importance to those who have a special knowledge of this subject. No one can desire that the contributions made by members to this discussion should be limited to the few points raised by the person who introduces it. All additions to our knowledge, all criticisms of current theories, to whatever points they may be directed, will, I feel sure, be warmly appreciated by those who have honoured this Section by their presence.

Dr. W. M. ORD drew attention to the concurrence of gastric ulcer with anæmia. He had observed many cases of anæmia in which there were signs of organic lesion in the heart of the nature of endocarditis or pericarditis, but in which there was no antecedent history of chorea, acute rheumatism, or fever, and that these were associated with clinical symptoms pointing to gastric ulcer. For some time he had only had clinical evidence of these phenomena, but he now knew of two such cases in which necropsies had been performed and which revealed a gastric ulcer in the stomach with vegetations on the cardiac valves. He thought that possibly the ulcer produced disturbance of the nutrition of the heart in some reflex manner, or possibly both were due to some common cause, which latter perhaps was the more likely of the two suppositions; he hinted that this might be explained by a disturbance in the nutrition of these parts by some nerve lesion. He was also of opinion that the circular form of gastric ulcer was *per se* suggestive of a possible neuritic origin analogous with the bullæ found on the skin in certain nerve lesions.

Dr. RUSSELL WELLS, in continuing the discussion, read a short paper on the Changes met with in Nerves due to Post-mortem Degeneration. The paper detailed the results of researches conducted by him in conjunction with Dr. W. H.

Wilson. After recalling the observations of other investigators on the microscopical appearances met with in the peripheral nerves in neuritis, he drew attention to the fact that in patients dying from various lesions in other organs quite apart from the nerves—such as pneumonia, morbus cordis, and acute fevers—the appearances of the medullary portion, as seen under the microscope, varied according to the time after death at which the preparation was made and to the length of the period during which it was kept in preservative fluids. The earliest changes which he found were breaking up of the medullary sheath and variations in the readiness with which the nerve fibres stained with reagents: the latter, he thought, was due to loss of the medulla in places, and this again to be caused by post-mortem chemical changes: the axis cylinders did not take part in these changes. The loss of the medulla leads to the nerve simulating the appearances of ordinary connective tissue. Specimens of this kind are indistinguishable under the microscope from nerves taken from cases of neuritis. He added that he had not seen as a post-mortem change rupture of the axis cylinder which writers on neuritis describe as occurring in that affection. However, he was of opinion that the changes met with in neuritis were not always due to post-mortem decomposition, because in the case of animals in which neuritis had been produced artificially the nerves would doubtless be examined immediately they were killed, and yet the nerves showed alterations in structure.

Dr. MOTT thought that peripheral neuritis was of interest in view of the theory of Marie that it is due to modifications in the ganglion cell with which the nerve is in anatomical continuity. That in diphtheria changes occur in the cells of the anterior horn as well as in the nerves, and that the paralysis was in some instances permanent and associated with wasting, was in favour of this view. He was of opinion that the reason why alterations in structure occurred in the end plates of motor nerves in peripheral neuritis was their remoteness from the seat of nutrition in the ganglion cell. Incidentally, he mentioned his inability to find degeneration in the end plates in two cases of diphtheria in which he had made observations for that purpose. Fibrous tissue met with around the nervous tissue in various cases of nerve degeneration he believed to be secondary to that degeneration. For his part he thought that in diphtheritic and other forms of peripheral neuritis the poison acted primarily on the nerve cell.

Dr. ORMEROD thought that, besides peripheral neuritis being due to primary disease of the nerve fibres on the one hand, or of the nerve cells on the other, there was probably a *tertium quid* in which both cells and nerve fibres were simultaneously affected. He suggested that, as Dr. Jackson had shown that the smaller nerve cells were more likely to be affected than the larger by poison, similarly the smaller terminal fibres were more readily affected than the larger trunks.

Sir T. GRAINGER STEWART made some remarks concerning the history of peripheral neuritis, and then went on to say that he thought that an affection of peripheral nerves was the only explanation of the combination of the motor, sensory, and nutritive changes met with in this disease. He thought the following clinical points were worthy of note—(1) that so marked a lesion could be entirely recovered from; (2) that an affection of peripheral nerves formed a ready explanation of the passing paralyses met with in the early stages of locomotor ataxy; (3) the capriciousness of neuritis in the selection of nerves; and (4) the not uncommon deaths in this disease due to the involvement of vital nerves. He mentioned the superiority of hypodermic injections of strychnia, as soon as the first acute stage was passed over, to its internal administration.

Dr. HAMILTON, Professor of Pathology in the University of Aberdeen, questioned the correctness of the nomenclature in peripheral neuritis, and added that as a result of his experiments in the artificial production of inflammation in nerve tissue he believed the appearances were entirely due to degenerative changes, and not to inflammatory processes at all.

Dr. SAUNDBY (Birmingham) disagreed with Dr. Hamilton's view that in many cases the changes were in reality due to inflammation of the nerves. He drew attention to the tenderness which occurs over the nerve trunks in certain forms of neuritis, as well as to the swelling of them which accompanies it.

Dr. GOODHART and others joined in the discussion, and Dr. SHARKEY briefly replied to the various speakers.

Vaccinia and Variola.

A discussion on this important subject was opened by Dr. S. MONCKTON COPEMAN, Medical Inspector of the Local Government Board and Lecturer on Public Health at Westminster Hospital. Dr. COPEMAN said: Before referring to the most recent work on the pathology of variola in detail it may be well to briefly recapitulate the subject matter of the paper which I had the honour of bringing before the notice of this section at the meeting of the Association held last year at Bristol. I there stated that the main dispute with reference to the pathology of vaccinia has always centred round the term variola vaccina, "small-pox of the cow," given to the disease in the first instance by Jenner. Consequently, the important question remains as before, whether vaccinia is or is not one with small-pox. In my former paper I stated that the problem has been attacked from two separate points of view—(1) experimental work having for its object the production (if that be possible) in the bovine animal by inoculating it with small-pox lymph of a disease indistinguishable both in its immediate local and in its subsequent general effects from true vaccinia; and (2) microscopic pathology and bacteriology, including, I may add, the testing of bacteria derived from lymph also on the bovine animal.

[Dr. Copeman then referred to the work which had been done with regard to the production of vaccinia by "variolating" bovine animals. He continued:]

As far as I am aware the most recent experiments of this nature which have been carried out are those of Dr. Klein and myself, the results of which have been published in full in the reports of the medical officer to the Local Government Board and in the *Journals of Pathology* and *Bacteriology* respectively. I do not, therefore, propose on the present occasion to refer to those experiments in detail, but I may perhaps add that in my own experiments at any rate no question of possible contamination with vaccinia can possibly arise, seeing that all my work was conducted at the Brown Institution; that as a special precaution new scalpels were used, which were invariably first sterilised in a flame; that before and after use the table was thoroughly washed with carbolic acid and water, and during the intervals of use kept exposed to the open air. As the result of all the work which has been done in this direction there can, I think, at the present time be no reasonable doubt as to the possibility of inoculating the calf with variolous matter, with the result of producing thereby, after one or more removes, a malady which is certainly no longer small-pox as ordinarily understood, seeing that it has now completely lost, when transferred to the human being, its original property of infectiousness. [Dr. Copeman here cited the results of various experiments upon monkeys.] Turning next to the micro-pathology and bacteriology of variolous, and more especially of vaccine lymph, I was able to bring forward certain evidence bearing on the important subject of the storage and preservation of vaccine lymph, as also on the relationship of variola and vaccinia so far as microscopic and bacterioscopic examination of lymph can help us. These two subjects I desire particularly to consider on the present occasion. It is a matter of common knowledge that vaccine lymph, whether stored in the liquid state or freshly obtained from a normal vesicle, usually is found when examined bacterioscopically to contain micro-organisms of various kinds, which have been shown by Crookshank, myself, and by other observers to be for the most part mere saprophytes.

[Dr. Copeman mentioned the use of glycerine in destroying these saprophytes and the streptococcus of erysipelas. He continued:]

With reference to possible transmission of syphilis and tuberculosis by calf lymph I need say nothing, seeing that it is universally admitted that the first of these two diseases is not transmissible to the calf, and that the bacillus of tuberculosis has never been discovered in vaccine lymph, bovine or human. In consequence no doubt of the apparent impossibility which existed until recently of isolating any bacterium from vaccine lymph which could be regarded as specific to vaccinia, several observers have sought to prove that organisms of a somewhat higher order than bacteria might be concerned in the production of this malady and also of variola. In this connexion it may be mentioned that bodies believed to be of the nature of psorosperms or sporozoa have been described as existing in the vaccine vesicle by Guarnieri and Pfeiffer on the Continent and by Dr. Armand Ruffer

and Mr. Jackson Clarke in this country. But as to this I was taken to task last year by Dr. Ruffer for mentioning the organisms described by Guarnieri and himself in the same category with those the occurrence of which had been put on record by Pfeiffer and Mr. Jackson Clarke. As, however, the last-named gentleman is to bring forward a paper giving the result of his researches, I do not propose to deal further with this subject on the present occasion, except to put on record the joint opinion of Dr. Klein and myself to the effect that, whatever may be the exact nature of these so-called sporozoa, they have not yet been proved to have any causal relationship with the diseases in question. On the other hand, as I stated last year, Dr. Klein and I have concurrently—though quite independently—shown that in specially stained specimens of vaccine lymph, taken at a period antecedent to full maturity of the vesicles, minute bacilli can be demonstrated, often in considerable numbers and in practically pure culture. These bacilli cannot be found, or only with difficulty, in mature lymph, for the reason probably that they have by then given place to spores. For some time it appeared impossible to obtain further evidence as to the *rôle* of these bacilli, as they altogether refused to grow on any of the ordinary culture media and under either aerobic or anaerobic conditions, though this very fact obviously tends to show that they are not of a merely saprophytic nature; during the past year, however, certain experiments which I have devised appear to prove that it is possible to obtain a growth of these bacilli in a particular culture medium, and even to carry on such growth in secondary cultivation. As it seemed to me, the desideratum for the purpose of inducing growth of the supposititious micro-organisms was a medium which had not been artificially sterilised, which *a priori* should afford the necessary pabulum, and which at the same time, whether it was to be considered aerobic or anaerobic, was secure in its circumstances against contamination. Hence the choice appeared to lie between the intra-peritoneal fluids of one or another living animal and the hen's egg, which has already been made use of as an alternative culture medium. As regards intra-peritoneal fluid I foresaw difficulty in that it is apt to contain leucocytes, which might easily vitiate experiment; and accordingly I adopted the hen's egg as a matter of first instance. I had no experience to guide me as to the best method of carrying out the inoculation of the egg, or of the period of incubation best suited for the object I had in view, and my attempts for a time, therefore, met with but small success. My inoculations were carried out by first cleansing the surface of the egg with corrosive sublimate solution and afterwards with alcohol, and then breaking a small hole in the shell by means of a sterilised needle and forceps. Through the opening thus made I mixed the yolk and albumen of the egg by means of a platinum needle, and then carried out the inoculation by means of a glass capillary pipette which had recently been drawn out in the blow-pipe flame. For the purpose of such inoculations I employed variolous crusts obtained from the small-pox ships of the Metropolitan Asylums Board. These crusts were rubbed up in a small glass mortar with a minimal quantity of sterilised normal saline solution. Of the resulting creamy emulsion a drop or two was then taken up into the glass pipettes and the inoculation carried out. Finally, the small hole in the egg was closed up either by means of a small pledget of sterilised cotton-wool soaked in collodion or with melted sealing-wax. The eggs inoculated in this manner were then placed on beds of cotton-wool and kept in the incubator at a temperature of 37° C. Here they were left for varying periods of time, a month being the period which was eventually found to be that which was most desirable. On opening an egg thus treated I found that in its interior was contained a creamy material which in great part had replaced the ordinary egg contents. This material examined as cover-glass specimens appeared to be a pure culture of one organism only—viz., a bacillus which morphologically was not to be distinguished from the bacillus which I have previously described as to be found in early vaccine lymph. My next step was to attempt to grow it in subculture and to make observation also of the effect of its direct transference by cutaneous inoculation into the calf. As regards attempts at subculture in all the media most usually employed for such a purpose, including gelatine, sugar gelatine, agar, glycerine agar, sugar agar, and serum, these were unsuccessful, as subculture of the bacilli contained in vaccine lymph had always failed when the ordinary culture media were adopted; but with the calf it was different.

On March 26th, 1895, Calf A was inoculated by eighteen incisions (fifteen on the abdomen and three on the scrotum) with a small quantity of the creamy emulsion contained in Egg No. 5, which had been incubated for one month after inoculation with small-pox crusts, as already described. On the 30th scrapings were taken from the vesicular points which had appeared in the line of two of the abdominal incisions, and also from one of the incisions on the scrotum, which had become slightly raised and red. With material thus obtained Calf B was on the same day inoculated by six linear incisions on a specially shaved area on the abdomen. Three incisions were inoculated with scrapings taken from vesicular points, and the other three with scrapings from the incision on the scrotum of Calf A. Three days later, on April 2nd, all six insertions appeared to be taking, though eventually one died away. On the 4th the calf was photographed, and on the same day a child was vaccinated from it by Dr. Cory. This child I have since seen. It has five good marks, and the mother told me that the vaccination "did splendidly" and that she had had no trouble with the child.

On March 28th, 1895, Calf C was inoculated on the right thigh in twenty-four insertions with emulsion from Egg No. 5, which had been kept in a pipette since the first calf of the series was done. By April 2nd three small vesicular points had appeared in the line of as many of the incisions. With scrapings from these I vaccinated myself, and Dr. Cory vaccinated a child aged three months. The process in my own case had aborted by the fourth day, but the child "took" quite normally and had when inspected on the eighth day five good vesicles with very little areola. On April 2nd also Calf D was inoculated from the small vesicles on Calf C in ten incisions on a special area of the abdomen. These all showed on the fifth day vesicles not to be distinguished from those of like age arising from the use of current lymph on the same animal. On May 7th, 1895, Calf E was inoculated on a special shaved portion of the abdomen in twelve incisions from the contents of Egg No. 5, taken into a pipette on the previous day. On the 14th six small vesicles, which had appeared in as many of the lines of incision, were clamped and scraped, and the material thus obtained was employed on the same date for the inoculation of Calf F in twelve insertions. On the 18th six of these insertions had taken well. On the 21st eleven of the twelve incisions showed a wide crust surrounded by a vesicular ring. The width of the crust was apparently due to the calf having been able to lick the places, as its collar had been removed by mistake on May 18th. Two of the more markedly vesicular of these "places" were clamped and scraped, and with the material thus obtained Calf G was inoculated by twenty insertions on a special area of the abdomen. By the 28th all the twenty insertions made had "taken," and no appreciable difference could be made out between the vesicles which had arisen on the site of these incisions and on those which at the same date had been inoculated with current lymph. This calf was twice photographed by Mr. Kent. From Calf G, Calf H was inoculated on the 25th; and, further, this strain of variola-vaccine derived in the first instance from the egg culture was carried on through two additional removes in the calf, after which it was not further cultivated. On May 28th, 1895, lymph taken from vesicles at the third remove from the egg culture were in my absence employed by Dr. Cory for the vaccination of a large number of children at the Animal Vaccine Establishment, owing to the fact that for some reason or other the current strain of lymph had failed to give good results in the two calves which had been vaccinated according to the usual routine. All these children showed excellent marks when inspected a week later, and several of them were photographed by Mr. Kent. Interesting, and indeed satisfactory, as are these experiments from my point of view, I do not claim for them demonstration of the practicability of growing and multiplying outside the animal body, in artificial media, the particulate cause of small-pox, or of converting the latter by my processes into the essential cause of vaccinia. And for this reason: these experiments of mine on the bovine animal had to be conducted, at any rate in this preliminary stage, at Lamb's Conduit-street, and the subjects of them had to be calves that on each occasion of experiment by me were at the same time vaccinated in some part of their bodies with the calf lymph current at this station. It is true that every precaution was taken in the

way of sterilising instruments and cleansing operation-tables, in selecting a given, clearly defined area on each animal for insertion of my lymph, and for keeping the incisions made by me protected as far as possible against later accidental mediate inoculation with lymph from some part of the same or other calf into which animal vaccine-establishment material had been inserted. Nevertheless, it is possible that, in spite of all precautions, accidental inoculation of my incisions with animal vaccine-establishment lymph may have occurred; and, further, I am not able to deny that simultaneous inoculation of the calves with my egg culture and with ordinary vaccine lymph may have in some occult way influenced the manifestation witnessed on the areas wherein my egg lymph was inserted. So, of course, these experiments have to be repeated, and are, indeed, in course of repetition. They involve repetition of the process from its very beginning—i.e., direct inoculation of the hen's egg with crusts of variola with calf lymph or with human lymph; tests by subculture in ordinary media and in the egg of any pure growth of microbe thus obtained, and inoculation of the calf elsewhere than at Lambs Conduit-street, both with the primary egg cultures and with any successful sub-cultures in the egg or in other media. Should then later experiments confirm the results obtained in the preliminary experiments that I have described, it is possible that we may eventually be enabled to elaborate a method of specific treatment of individuals actually suffering attack by small-pox, somewhat comparable to that discovered by Behring in reference to diphtheria. Should this forecast be justified in the event some such method would form a fitting complement to the process of preventive vaccination which now for well-nigh a century has stood the test of time and experience.

Dr. HAUGHTON made some remarks concerning the *rôle* which insanitary conditions play in the production of variola, and expressed his belief that similar phenomena to those of vaccinia might probably be produced by the inoculation of matter from the white swelling of a knee-joint or any other scrofulous disease.

Dr. DENHAM (Dublin) had noticed in his experiments that the vaccine from a calf approaching puberty was not nearly so efficacious as that taken from a younger calf. He agreed that the mixing of lymph with glycerine and storing for some time led to the total destruction in it of saprophytic organisms.

Mr. RENNER, Dr. DRYSDALE, and Dr. STANLEY KENT also joined in the discussion.

Dr. COPEMAN, in reply, stated that vaccine points are bad, and that if used at all they should be made of celluloid, which can be sterilised, rather than ivory, which cannot be so satisfactorily sterilised owing to the interstices in it. In answer to a question, he stated that he did not believe that the psorosperms produced in the rabbit's cornea after inoculation had anything to do with the production of small-pox, and denied that they had ever been found in vaccine lymph itself.

OPHTHALMOLOGY.

THURSDAY, AUG. 1ST.

Pseudo-Malignant Tumours of the Orbit.

Professor PANAS of Paris read a paper on this subject. He referred to a number of observations on exorbitis with tumour supposed to be malignant, but which subsided under medical treatment or an intercurrent attack of erysipelas, and which were subsequently put down as syphilitic, referring in support of this statement to a large number of Continental writers, whereas he held that a number of neoplasms thought to be lymphomas, sarcomas, or syphilomas ought to be attributed to the dyscrasia produced by some toxines. In illustration he quoted the case of a man aged thirty-five years, who presented double exophthalmos simulating in all respects sarcoma, which was completely cured by the use of arseniate of soda. The patient was free from syphilis, and the condition had been aggravated by iodide of potassium. The condition, in Professor Panas' opinion, was due to microbic infection of the cellular tissue extending from ozæna affecting the nasal fossa, the swelling being most marked on the inner side of each orbit. In another case, that of a young woman, also free from syphilis, exophthalmos of the left eye was associated with polypi of the left nostril, supposed at first to be sarcomatous. Many other cases were cited, nearly half being bilateral, and all of which subsided under treatment by arsenic or other drugs after being regarded as malignant. Experiments upon dogs by Professor Delbet were afterwards related, in which lymphadenoma was transferred to them, a specific bacillus being separated and introduced and being afterwards found in the glandular enlargements of the animals. Another set of cases was also noted in which the lacrymal glands were the primary seat, the condition being usually associated with specific febrile or venereal disease. In conclusion, Professor Panas recommended that in all such cases search should be made for the source of infection, and treatment by drugs resorted to before surgical interference was tried.

On the Diagnosis of Orbital Tumours.

Dr. H. R. SWANZY (Dublin) opened a discussion on this subject. He said there were three main questions. 1. Was a tumour of the orbit present? 2. Was it confined to the orbit? 3. Of what nature was the new growth? It was in the early stages that most difficulty arose, and the earliest sign was commonly proptosis, mostly in a somewhat oblique direction, except in tumours developing in the apex of the orbit. The development, too, was gradual and mostly unilateral. Further evidence might be obtained by palpation, which, besides confirming the presence of a tumour, might elicit information as to position and attachment. Disturbance of vision—another important sign—occurred mostly in rapidly developing tumours, in those directly affecting the optic nerve, or in the later stages of other forms. Pain or loss of motion was present with less frequency. Many cases of orbital tumour were instances of the invasion of that cavity by growths originating in the neighbouring bony sinuses, either frontal or lacrymal; the commonest were mucocele or osteomata, and the displacement of the globe was commonly downward and outward. An examination of the neighbouring fossæ, especially the nose and pharynx, was essential, as was also careful examination for cerebral symptoms and the condition of the fields of vision. Fixation and pain occurring early were to be regarded as signs of malignancy. Pulsation and bruit or thrill indicated vascular developments, and congenital tumours were mostly encephaloceles or dermoids, though the latter seldom became prominent until puberty. The consistence and site of the growth were also important elements in diagnosis, but in the great majority of cases no certain opinion could be arrived at until an operation was undertaken.

Mr. HENRY POWER referred to a case in which proptosis had disappeared on the removal of a necrosed inferior turbinated bone.

Professor FUCHS quoted a case of rhino-scleroma of both orbits which were invaded at their apex from the nasal cavities, and in which immobility of the eye occurred when the proptosis was still slight.

Dr. ARGYLL ROBERTSON corroborated the views held by Professor Panas as to the subsidence of what appeared to be organic tumour of the orbit. He recalled several such cases and narrated one in a young man in which the temporal and malar regions and brain appeared to be involved, but which completely recovered under large doses of iodide of potassium.

Mr. NETTLESHIP mentioned a case of Unilateral Stationary Proptosis with swelling in the corresponding temporal fossa and cheek in a woman between thirty and forty years of age, in whom the condition had existed for five years.

Mr. SPENCER WATSON related a case in which double proptosis and cardiac symptoms had subsided after removal of inferior turbinal and nasal growths.

Mr. ADAMS FROST referred to a case he had shown to the Ophthalmological Society which was regarded as sarcoma, and in which he had removed the large lacrymal gland on one side, finding what appeared to be a small, round-celled sarcoma. The other tumour had subsequently disappeared under iodide of potassium.

Dr. HILL GRIFFITH mentioned a case of Orbital Sarcoma in which there was an unusual amount of inflammatory action, the growth extending all round the cornea.

The Radical Operative Treatment of Trichiasis.

Dr. KENNETH SCOTT described the process as follows. An incision is firmly made on the conjunctival surface of the lid parallel to and 2 mm. from the ciliary margin dividing the tarsus completely. The eyelid is replaced in position and its divided margin grasped in forceps and forcibly everted by

carrying the handle up till it touches the brow. One needle carrying eighteen inches of silver wire is passed vertically down from the brow through the skin surface of the centre of the lid into the substance of the upper part of the tarsus, emerging at its divided edge; it then enters the original anterior surface of the lower separate portion of the tarsus, to be finally brought out on the free margin of the lid, midway between the lashes and conjunctival edge. Two other sutures are similarly introduced, one towards each end of the eyelid. The opposing ends of these three sutures, which should be left long, are now separately twisted together, not so tightly as to cause constriction, but sufficiently so to maintain the lid in its everted position. The remainder of the suture is now passed along in the tissue of the eyebrow from one extremity to the centre, at which points the corresponding twisted strands of wire are attached to it; the needle is reintroduced at the centre of the eyebrow, close to its point of emergence, and is brought out at its opposite end, where the third remaining twisted suture is secured to it. When the lower lid is the site of operation the cheek is used as a fixation point instead of the eyebrow. The operation occupies about three minutes.

A Note on the Surgical Treatment of Dislocation of the Crystalline Lens into the Anterior Chamber.

Dr. GEORGE MACKAY asked the experience of his colleagues as to what proportion of cases received permanent benefit from reduction of the dislocation, and in inviting discussion on the best method of operating for the removal of the lens in its capsule, gave his own experience in favour of the employment of a needle to fix and remove the lens from the path of the knife while making the corneal section and to prevent its falling back into the vitreous while a vectis or scoop was being passed behind it.

Mr. PRIESTLEY SMITH said that in cases of partial dislocation with high tension it was well to slacken the eye by a scleral puncture, and only to remove the lens after the tension was reduced.

Brigade-Surgeon-Lieutenant-Colonel DRAKE-BROCKMAN, Mr. GEORGE WALKER, and Dr. EMRYS JONES narrated cases of congenital or traumatic dislocation in which discission or removal of the lens had been effected.

Latent Hypermetropia in the Visual Examinations of Candidates for the Public Services.

Mr. BEAUMONT in this paper pleaded for more definite regulations with regard to the question of latent hypermetropia in the visual examination of candidates for the public services. In the Royal Navy especially he stated that, although the rule was that emmetropes alone were admissible, yet no means were adopted for the detection of hypermetropia. As a consequence it happened that hypermetropic candidates, although warned of ineligibility, often passed with flying colours, and the surgeon giving an adverse opinion was discredited.

Dr. RISIEN RUSSELL gave a limelight demonstration of experiments on the visual centres. Excitation of the frontal eye area caused movement of both eyes to the opposite side, and destruction brought about subsequent deviation to the same side. On section of the appropriate recti, excitation of particular spots elicited each separate movement of the eyes. Further experiments under absinthe showed that the cortical centre only initiated impulse, the motor force being supplied by lower centres. Ablation of one hemisphere of the cerebellum caused paresis of limbs on the same and deviation of the eyes to the opposite side.

Mr. ADAMS FROST gave an interesting limelight demonstration of various aspects of the fundus in health and disease.

Dr. MACNAUGHTON JONES read a paper on the Importance of Detection of Errors of Refraction in Neurasthenic Women, giving numerous instances of relief after correction.

FRIDAY, AUG. 2ND.

Operation in Chronic Glaucoma.

The debate on this subject was opened by Mr. Nettleship. Many cases, he said, were dependent on mental worry or grief were of a purely temporary kind, and were relieved by change of occupation, lapse of time, and general or local remedies, such as eserine. Sclero-puncture, though very effectual in acute, was practically useless in chronic glaucoma. Endeavour should be made to discriminate between different forms of chronic glaucoma, for they were not all alike. One variety associated with disorder of the menstrual functions was not relieved by iridectomy.

Mr. CRITCHETT expressed regret that the treatment of chronic glaucoma was not only a twice, but a thrice told tale. He felt that in this disease it was essential to remember the well-known text, "That thou doest do quickly," and he instanced a case of chronic glaucoma recently under his care in which the disease had existed nine months in the left eye before it affected the right, and though iridectomy was performed in both eyes the tension returned in the left. He laid great stress on the advantage of a cystoid cicatrix, saying that any ophthalmologist who could invent a certain method of securing this condition would have deserved well of his country; and he quoted a case of double chronic glaucoma at St. Mary's Hospital where he had operated on both eyes. The tension had returned in one eye, but had not done so in the other, which was protected by a cystoid cicatrix.

Mr. PRIESTLEY SMITH said that in his view the criterion of glaucoma was the presence of excess of pressure-producing symptoms. A minority only of cases exhibited cupping of the disc and narrowing of the field. The diagnosis was rendered more difficult by the existence of cases in which tension varied from time to time or in which it was insufficient to be detected by the finger. He recommended the use of the tonometer in these. He advised operation whenever there was vision worth saving, even to the bare perception of light, if the health of the patient permitted. He should be warned that the result was not certain, but that operation offered the only chance of saving what remained. The immediate danger to be feared from the operation was injury or displacement of the lens or deep-seated hæmorrhage. This risk was diminished by puncture of the sclerotic, so as to slacken the eye and so gain time, while such conditions as sleeplessness, constipation, and worry which predisposed to hæmorrhage might be relieved. Ultimate success depended on the formation of a permanent fistula so as to maintain drainage, but was also assisted by attendance to the general health so as to obviate further degenerative changes in the optic nerve.

Dr. SWANZY emphasised the advisability of early operation. There was immediate danger of deterioration of sight, but this could be better borne in the early than in the late stages; indeed, when sight was reduced to the fixing point he would refuse to operate for fear of this last remnant failing in consequence. On the other hand, there was difficulty in getting patients with only slight loss of vision in the early stage to submit to operation.

Mr. LITTLE advocated operation in the premonitory stage. When relief was not secured it was often because the incision was too near the cornea.

Mr. ADAMS FROST said it was remarkable that more astigmatism resulted from an iridectomy in glaucoma than in cataract extraction. He avoided operation as much as possible, giving cocaine and eserine every night, and performing iridectomy only when this failed.

Mr. JULER concurred with what Mr. Nettleship had said.

Mr. LEE also spoke.

Mr. MACKINLAY considered it most important to operate early and to make the incision as far back as possible. He preferred a Graefe's knife. The late Sir William Bowman pointed out the fact that an operation often hastened the vision as he called it, and it was well to point this out to patients beforehand, impressing the fact that without it they would drift into blindness.

Mr. RICHARD WILLIAMS agreed with what Mr. Nettleship had said, except as to his preference for iridectomy. He had had an excellent result from sclerotomy, the operation being also free from danger.

Mr. TREACHER COLLINS explained the formation of a cystoid cicatrix by the protrusion of a knuckle of iris between the edges of the scleral wound. This was thinned and forced outward by the tension of the eye till it allowed of free filtration. In such cases a boggy condition of the conjunctival tissue around the scar was noticed.

Mr. MCHARDY approved of performing sclerotomy in the coloboma of an iridectomy when further interference was called for. He quoted Bowman in support of the opinion that postponement led to disaster. After operation he did not permit the eye to be used for six months. The incision, commenced in the usual position, should be carried far back at the apex, so as to pass rather behind the sclero-corneal junction. He thought a cystic cicatrix was associated with pricking the iris on inserting the knife. A favourable result was assisted by low diet after the

operation and an avoidance of constant padding of the eye, skilled support by the hand being substituted for the bandage at intervals.

Professor FUCHS said he had performed sclerotomy only in cases which presented increase of tension after an iridectomy. He had given up operation in cases of chronic glaucoma when there was no increase of tension to be stated; these might, however, be regarded as instances of atrophy of the disc with cupping and not as chronic glaucoma.

Dr. MEYER made a similar reservation to Professor Fuchs with regard to cases presenting only cupping of the disc. He would advise operation in chronic glaucoma under any conditions of vision short of complete extinction, preferring iridectomy to sclerotomy.

Dr. GAZET considered sclerotomy as an operation performed rather for the satisfaction of the surgeon than the interest of the patient. He preferred iridectomy, or in those cases where this was inadmissible puncture of the sclerotic near the equator of the eye.

Professor FUCHS read a paper on Erythropsia—transitory red vision—following protracted exposure of the eyes to strong light. The instances he quoted followed a walk in the snow on which the sun was shining. The phenomenon was more easily produced in some individuals than others, possibly owing to the amount of pigment present in the fundus. The fixation point was not affected, but the depth of colour increased towards the periphery of the field.

Brigade-Surgeon-Lieutenant-Colonel DRAKE-BROCKMAN said a similar condition was common after exposure to sun glare on the plains in India, especially in the subjects of cataract extraction.

Mr. BICKERTON read a paper on the Utter Neglect of the Eyesight Question in Board of Trade Official Inquiries into Shipping Disasters.

In connexion with this the following resolution was proposed by Dr. FARQUHARSON and seconded by Mr. MCHARDY: "That effect should be given by the Board of Trade to the recommendations contained in the report of the Committee of the Royal Society on Colour Vision." This was carried unanimously.

Dr. EDRIDGE GREEN described Systems of Tests for Colour Blindness, stating that many colour-blind people were able to pass a satisfactory test with Holmgren's wools.

DISEASES OF CHILDREN.

The Treatment of Hernia in Children.

Mr. RUSHTON PARKER, Professor of Surgery in University College, Liverpool, and Surgeon to the Royal Infirmary, Liverpool, introduced a discussion upon this subject. The treatment of hernia in children must obviously be either by truss or by operation. He said it is assumed that when a hernia can be kept up with a truss there is no need for further surgical interference. This maxim, generally applicable to the adult, has been thought to be specially adapted to children, in whom the permanent disappearance of hernia after the use of a truss is said to be attainable in a large proportion of cases. Mr. Parker said he would not attempt either to deny or to affirm this, as he has been chiefly consulted on behalf of children, in cases where operation was already regarded as expedient and desired by the medical attendant and friends if acceded to by him. Of the separate motive for operation in each case he had no systematic record, and was therefore unable to say in what proportion of his cases a truss might have been attempted without success, or in how many the operation was asked for to save the trouble, time, and possible failure involved in the use of a truss. The only operation applicable to all herniæ alike, strangulated or not, reducible or not, is herniotomy, with special treatment of the sac; and it was to the operative treatment of hernia in children that his paper was mainly devoted. Mr. Parker's cases had been forty in number, all inguinal, some double, and all in males except one, occurring in thirty-three persons, whose ages varied from four weeks to twelve years—2 were of twelve years, 8 from five to ten, 16 from one to four, and 7 under a year; 2 were of nine months, 1 each of seven, six, and four months, 1 of seven weeks, and 1 of four weeks. The chances of fatality must not be overlooked, and in his forty cases he had met with 3 deaths—2 from peritonitis after ten days, and so traceable to the wound; and 1 from bronchitis within twenty-four hours, an intercurrent accident. The risks of failure appeared to be now not very appreciable, but two of his earlier cases, large herniæ unfitted for a truss, recurred some months after operation. Excluding the 2 failures, 3 deaths, and 1 lost sight of, the relatives of the remaining 27 patients have been recently communicated with, and replies received from 25 announcing that in not a single case had hernia reappeared so far. Two patients had died of other disease, being free from hernia two years after operation, while 23 were reported free from all sign of hernia in June, 1895. The longest interval since operation is eleven years, but in 5 cases it is under a year, with graduated intervals between the limits. The variety of operation preferred by Mr. Parker is Macewen's, described with illustrations in the *British Medical Journal* of Dec. 10th, 1887. The material used for the deep attachment of the sac to the abdominal wall, and for the pillars of the ring when they are dealt with, is the green catgut supplied to surgeons, while that for the skin wound is usually the more readily absorbed yellow catgut. Ligature of the sac with yellow catgut was done in the two cases that failed, and also with green catgut in a few of the successful cases, but has been seldom relied on by Mr. Parker in late years. The conclusions arrived at are: (1) the operation of herniotomy, with special treatment of the sac, is adapted for the radical cure of hernia, strangulated or not, in suitably selected cases at any age; (2) the results of operation during early childhood, and even in infancy, show that at these periods of life the success obtained is probably the greatest of all, while the slight danger is not increased; and (3) there is room for choice in the details, but Mr. Parker preferred Macewen's treatment of the sac in femoral and inguinal herniotomy.

The paper was discussed by Mr. LOCKWOOD, Mr. LANGTON, Mr. MACEWEN, Dr. WARD COUSINS, Mr. MACREADY, Mr. SOUTHAM, Mr. H. P. SYMONDS, Mr. R. H. LUCY, Mr. DAMER HARRISSON, and Mr. WATERHOUSE. There was a general concensus of opinion that Macewen's operation was in the end most satisfactory, and each speaker had his own favourite method for getting over the difficulties of the operation in young children. There was also general agreement that the efficient treatment of hernia in young children by trusses among hospital out-patients was practically impossible.

FRIDAY, AUG. 2ND.

Dosage for Children.

Mr. KINGSTON BARTON opened a discussion on the Doses Suitable for Children at the Several Ages. He reviewed about forty of the preparations most employed, and discussed the dose which he found most efficacious for various purpose. He urged the desirability of inserting in the British Pharmacopœia some guide as to the doses most suitable for children, such as appears in the official Pharmacopœia for Switzerland. He did not think that the dose could be calculated from the body weight, as he considered that children required larger proportional doses than adults, and required them to be given more frequently.

Dr. D. J. LEECH considered that with the exception of stimulants, depressants, and narcotics children took drugs with less disturbance than adults. Dr. FOXWELL, Dr. DAWSON WILLIAMS, and Dr. TIRARD also referred to the remarkable tolerance of young children for some powerful drugs such as mercury, belladonna, and arsenic.

Among the papers which were read in this Section was one by Dr. ARCHIBALD GARROD and Dr. MORLEY FLETCHER on the Maternal Factors in the Causation of Rickets. They showed that in many cases improper feeding was insufficient to account for the occurrence of rickets, but that circumstances affecting the health of the mother before the birth of the child or subsequently, impairing the quality of the breast milk, must be kept in mind. Dr. JOHN THOMSON read a paper on Congenital Hypertrophy of the Pylorus and Stomach Wall; and Dr. COURLEY of Paris contributed a paper on the Non-Pathogenic Streptococci and Staphylococci of the Throat of Children.

PHARMACOLOGY.

WEDNESDAY, JULY 31ST.

Serum Therapeutics.

Dr. KLEIN opened a discussion on Serum-therapeutics by referring to the work of Behring, Kitasato, and Roux, and to the overwhelmingly favourable results of the antitoxin treatment of diphtheria which had been published. He, however, would only deal with the scientific aspects of the question. Experimentally, the effects and value of the antitoxin serum

were so striking and could be so easily tested that it would be strange if a similar beneficial effect were not manifested when it was used upon the human subject. Immunity was of different kinds; there was natural immunity when the individual was insusceptible to a particular infective disease, acquired immunity when a first attack of a disease protected against subsequent attacks, and artificial immunity when the insusceptibility was the result of certain treatment. Natural immunity was altogether different from acquired immunity, the former being probably dependent upon some peculiarity of cells or tissues, which he would not enter into; the latter to the presence of chemical substances in the blood, which were termed anti-bodies. The methods of producing immunity to diphtheria and the production of antitoxin by injection of gradually increasing doses of the toxins or of the toxins *plus* living bacilli were then briefly described. The antitoxins had a very great power of neutralising the toxins, but much larger doses had to be employed if living bacilli were present in addition. Hence the antitoxic substance and the substance immunising against the living bacilli seemed to be distinct, and, in fact, it could be shown experimentally that they were not formed simultaneously or to the same degree. The antitoxic substance was perhaps a ferment, and in the future two classes of animals might be kept, one class immunised against the toxins, and furnishing antitoxin for the treatment of diphtheria, another class immunised against the living bacilli, and furnishing a serum which might be used for preventive inoculation. Experimentally, the value of antitoxin was as firmly established as that of any known drug.

Dr. WASHBOURN said that serum therapeutics marked an epoch in medical treatment comparable to the introduction of antiseptics into surgical practice. Whereas by the introduction of antiseptics the field of surgery had been vastly extended, medicine, except for the improvements in diagnosis, had remained almost stationary. The progress of bacterial therapeutics had been slow, and when tuberculin was found to be a failure, for a time a death blow seemed to have been given to this branch of treatment. The disfavour with which the antitoxin treatment had been received by some was due partly to preconceived ideas, based on the failure of the tuberculin treatment. The cases of tuberculin and antitoxin, however, rested upon a very different foundation, for the latter had been thoroughly tested experimentally before being published. With regard to tetanus antitoxin, as pointed out by Dr. Kanthack, the results seemed to be somewhat disappointing, but there was the disadvantage that only a comparatively few cases had been treated, and no observer had had a series of cases. There were two methods by which the value of diphtheria antitoxin could be gauged—the clinical and the statistical; and a large number of cases and series of cases were now available for criticism. As regards the statistical method, it was most important that the age of the patients should be mentioned, for whereas for children under five years the mortality was 49·09 per cent., for persons over fifteen years the mortality was only 4·6 per cent. The varying severity of different epidemics was a factor which could not be neglected, but by taking a large number of cases in many series this fallacy could be eliminated. The position of the membrane, whether faucial only or involving the larynx, was another important factor. Many of the published records of isolated or small series of cases were of little value, especially if the ages were not stated. Over 3000 cases treated with antitoxin were now available for analysis, and statistics showed a diminished mortality, in some instances one-half that which existed in pre-antitoxin days. This was the case in Paris, where at the same time at the Trousseau Hospital under the old treatment the mortality remained up to the average, and also in Berlin, where there was a great diminution of mortality when the antitoxin was used, a rise when the supply of the remedy failed, followed at once by a decline on the resumption of the use of the remedy. Statistics, therefore, definitely proved the advantage of the antitoxin treatment. Clinically the following features were observed under the antitoxin treatment. The exudation clears off more rapidly, and so in many cases dispenses with the necessity for tracheotomy. The temperature, which, however, is not of great importance in diphtheria, when high is lowered, the pulse becomes slower and more regular, although no direct action is observable on the heart. No deleterious effects, such as nephritis and anuria, could be ascribed to the remedy. As regards the occurrence of post-diphtheritic paralysis more extended observations were required. Where the antitoxin failed it was frequently due to invasion of the membrane by septic bacteria, streptococci, and the like, whereby a septicæmic condition might be produced. Slight complications, such as rashes, pyrexia, and joint pains, sometimes attended the use of the remedy, but these were of a transient character and only retarded recovery somewhat. The rashes were of an erythematous or urticarial nature, and the joint pains proceeded usually from the structures around the joint, although actual effusion might occur. Dr. Washbourn emphasised the importance of antiseptic precautions for the injecting and the necessity for regulating the dose according to the age of the patient and the severity of the disease. As regards the prophylactic use of the serum, the protection did not last long, and it would only be exceptionally indicated. In conclusion, the possibilities of serum therapeutics were touched upon as applied to bacterial diseases such as erysipelas, pneumonia, puerperal fever, and the like.

Professor CHARTERIS (Glasgow) spoke of the cases of diphtheria he had seen treated with antitoxin. There could be no doubt about its efficacy; the membrane ceased to spread, the pulse became fuller and stronger, and the whole aspect of the patient improved. With regard to the ill-effects attributed to the use of antitoxin, he had made experiments on animals with the preparations supplied by Aronson, Behring, Burroughs and Wellcome, and the British Institute of Preventive Medicine, and in no case was any deleterious action observed.

Dr. R. T. HEWLETT said that he wished to say a few words with regard to tetanus antitoxin. After a brief description of its mode of preparation the speaker referred to the mortality from tetanus, and from a consideration of the statistics concluded that this was about 75 per cent. for all cases. He had collected details of sixty-one cases of tetanus treated with antitoxin with twenty-two deaths, giving a mortality of but 36 per cent. This, however, was probably too favourable, and it would seem that the acute cases were little benefited, but in the chronic ones the tetanus antitoxin distinctly increased the chances of cure. A recent report from one of the West Indian islands was encouraging, for the Acting Surgeon-General reported that the treatment of tetanus by antitoxin had been so satisfactory that he recommended that a further supply of the remedy be obtained at once. The speaker concluded that it was our duty to employ the antitoxin in all cases of tetanus, and emphasised the importance of early treatment. The use of tetanus antitoxin as an immunising agent was most promising, especially in certain tropical countries where tetanus was of frequent occurrence.

Dr. TIRARD had treated with antitoxin sixteen cases of diphtheria at the Evelina Hospital with only two deaths, a considerable reduction compared with the previous rate of mortality, and one of these was due to hæmorrhage from the tonsillar artery. The effects of the treatment were very striking from the first—the membrane "went," there was marked improvement in the general condition, the pulse increased in force and diminished in rapidity, and the temperature fell or, at any rate, did not rise. All the cases had been carefully watched, and no paralytic symptoms had occurred. Altogether the results of the treatment were most encouraging, but it must still be regarded as being on its trial.

Dr. GAYTON was not favourably impressed with the antitoxin treatment of diphtheria. He believed that cases which would have died under the old treatment died under the new, while paralysis became more frequent and the liability to nephritis was increased by antitoxin. It was true that there was a slightly lessened mortality (about 5 per cent.) under the use of antitoxin, but this was to be attributed to an alteration in the character of the cases. The rashes &c. attending the use of antitoxin were not of such slight importance as had been stated. Finally, for those experienced in the clinical diagnosis of diphtheria the bacteriological diagnosis was unnecessary and often misleading.

Dr. CAIGER had treated 230 cases of diphtheria with antitoxin. Cardiac failure had been reduced, but paralytic sequelæ were more frequent. This was to be attributed to the fact that a larger proportion of severe cases recovered than formerly. The duration of the membrane, which before the use of antitoxin was 4·6 days, was reduced to 2·6 days. In the nasal form the acrid discharge was soon checked and the patients rendered more comfortable. In laryngeal cases the benefits were most marked; both the membrane and swelling soon disappeared, and the number of cases requiring tracheotomy was reduced from 70 per cent. to 43 per cent.

The mortality was lessened, and even in the fatal cases life was prolonged to 7·2 days, whereas it was previously only 4·3 days. After commenting on the character of the rashes, Dr. Caiger referred to the dose of antitoxin, and said he had given much larger amounts than were recommended, starting with 50 c.c. and administering 160-180 c.c. during the first three days, and he considered the results were much better.

Professor FRASER (Edinburgh) commented on the method usually employed to test antitoxin, and considered that the small amount of antitoxin required to neutralise the minimum fatal dose of toxin, when administered previously or simultaneously, was calculated to give an exaggerated idea of its potency. He advocated the standardising of antitoxin by injecting it at some given time after the dose of toxine.

Mr. BOKENHAM referred to the large bulk of fluid which had to be injected and to the convenience of a more concentrated form of the antitoxin. When dried, the scales would dissolve in a volume of water only one-third that of the original serum. He had also succeeded in precipitating the albuminous matters in the serum more or less perfectly, thereby obtaining a concentrated product.

Dr. KLEIN, in reply, alluded to the use of dried serum, and believed that in this form the antitoxin was less likely to produce the rashes and other complications which had been mentioned. With regard to Dr. Gayton's communication he should have liked to have had more information respecting the dose administered.

Dr. WASHBOURN agreed with Professor Fraser as to the testing of antitoxin. Referring to Dr. Gayton's cases, he said their number was too small to attach great importance to them, and as it was the mortality had been reduced 5 per cent. He should have liked more information as to the dose and method of administration. He could not agree that the bacteriological diagnosis of diphtheria was of little value.

Production of Immunity to Snake-bites.

Professor FRASER (Edinburgh) then read a paper on the Production of Immunity to Snake-bites, and described the method employed. Antivenene could be produced by internal administration of the venom as well as by subcutaneous injection; the latter, however, was the better. The blood of venomous snakes was strongly antitoxic and protected not only against their own venom, but also against that of other species. The antidotal action of antivenene seemed to be rather of the nature of a chemical reaction than of a physiological antidote. With regard to the administration of antivenene, several successive doses seemed to be more effectual than one large one. Antivenene should be injected at the seat of the bite, before the ligature, if applied round the limb, had been removed and before excision; 20 c.c. sufficed for the initial dose.

Professor STOKVIS (Amsterdam) asked whether Professor Fraser had administered antivenene by epidermal application. He believed that in the West Indies the snake-catchers rub themselves with the skin of a recently killed snake before pursuing their occupation, and were supposed to be thus rendered immune.

Professor FRASER, in reply, stated that he had not tried epidermal application of antivenene, but as immunity could be produced by absorption through the epithelial lining of the stomach it was quite possible that inunction would act similarly. It was a point worthy of trial.

THURSDAY, AUG. 1ST.

Discussion on Revision of the British Pharmacopœia.

The greater part of the sitting was devoted to a consideration of the revision of the British Pharmacopœia, Dr. T. LAUDER BRUNTON presiding.

Professor LEECH (Manchester), in opening the discussion, said that he was a member of the General Medical Council, and was hoping to learn the views of practitioners on the question of revision. He suggested that the discussion might be confined to the following considerations: (1) the nature and extent of the list of remedies; (2) the preparation of compounds so far as concerned their medical use; (3) weights and measures; and (4) the amount of accessory information to be given. Much information had been gained from the memorandum of the Therapeutic Committee of the Association, and it appeared that fifty-four drugs and preparations were never used by over 5000 practitioners out of the 5609 who had sent replies. At the same time every drug was used by someone, and it was important to ascertain how this came about before deciding on omissions. As regards examinations, it was absurd to expect students to acquire a knowledge of drugs which would never be used by them. The Pharmacopœia must keep pace with the times, and the question arose as to whether the new preparations, such as tabloids, granules, &c., should be included. Should the details of the making of poultices find a place? With regard to the tests, it would be well to specify what the impurities were which the tests were intended to detect. The British Pharmacopœia was the only one in which the metric system of weights and measures was not adopted, and it would probably be found expedient to include them side by side with the English ones. As regards dosage, simplification was very desirable, and of the powerful remedies the maximum and minimum doses might be specified with advantage. Finally, it was only necessary to describe the drugs generally employed, and all doubtful matter should be excluded.

Dr. DONALD MACALISTER (Cambridge) said that the essential formulæ of the Pharmacopœia should be so arranged as to be easily remembered, and so that the superfluous should be best avoided. Uniformity should be aimed at. Thus as regards the tinctures, although it might not be feasible to make them of such strengths that the dose should be uniform, it would be possible to have two or three classes, so that all the tinctures in a class should have the same dose. As the active constituents in roots, leaves, &c., varied considerably under different conditions it would be desirable to add directions for standardising the extracts and tinctures. Two strengths of the same preparation—as the liquor ammoniæ acetatis and the liquor ammoniæ acetatis fortior—were confusing and might lead to dangerous errors. The metric system should be introduced, and a concise table of solubilities would be most useful. As regards enemata, formulæ for some simple enemata might be retained, but the amount of the active constituent to be introduced should be left to the prescriber.

Professor BRADBURY (Cambridge) considered that the Pharmacopœia contained much useless matter—for instance, the mode of preparation of chloroform, ammonia, &c. Purely pharmacological methods only should be retained, as the preparation of infusions and tinctures. Many improvements might be made in the various menstrua and in the bases for the unguenta. Uniformity of dose was a subject of the greatest importance. In the present Pharmacopœia some of the doses were too large, as those of tincture of aconite and dilute hydrocyanic acid; the latter might preferably be prepared as a 1 per cent. solution instead of a 2 per cent. In other cases the doses were too small, as the liquid extracts of ergot and male fern and the subnitrate and carbonate of bismuth, of which the dose might be up to one drachm. It would also be very valuable to give the maximum amount which could be administered with safety in the twenty-four hours, especially when the drug tended to be cumulative. The metric system should be introduced for the purpose of preparation, for prescribing its use might be optional, while the Centigrade scale should replace the Fahrenheit.

Mr. MAHOMED thought that the number of preparations of several drugs might be reduced with advantage. He strongly urged the desirability of uniformity in dosage wherever this was practicable.

Dr. T. JONES considered that medicated bougies and pessaries might be introduced with advantage, and that the present selection of suppositories was not a good one, while the doses of drugs to be administered by the rectum needed careful revision.

Dr. TIRARD spoke of the numerous suggestions he had received as secretary of the Therapeutic Committee of the Association in the course of an investigation of the relative frequency of employment of certain drugs. Many of the suggestions were valuable and had already fallen from previous speakers. He thought too much had been made of the Pharmacopœia belonging wholly to medical men or wholly to chemists; it was a standard of purity for the use of both. Mr. NEVILLE WOOD, Dr. MAYBURY, Dr. FRASER, and Dr. STOCKMAN also took part in the discussion, the last suggesting that the Therapeutic Committee might begin working not for the next Pharmacopœia but for the one "after next." Much of the ground covered by the various speakers closely followed the various criticisms of the Pharmacopœia which have appeared in these columns and in other journals.

Professor CHARTERIS (Glasgow) said that the doses and the tests for impurities in the present Pharmacopœia were in many cases incorrect. The introduction of the metric system of weights and measures was also desirable.

The discussion was continued by Dr. CARTER, Professor FRASER, Professor RALPH STOCKMAN, and others, and Professor LEECH briefly replied.

In the short time that remained at the end of the discussion, papers, among others, were read by Dr. SURVEYOR and Dr. VAUGHAN HARLEY on the Action of β-Naphthol and Bismuth Subnitrate as Intestinal Antiseptics, and by Dr. C. D. F. PHILLIPS on the Pharmacological Action of Berberine.

ETHICS.

THURSDAY, AUG. 1ST.

Clubs, Medical Aid Societies, and Contract Practice.

On Thursday morning a debate on this subject was opened by Mr. DOYNE. He spoke as to the inability of the General Medical Council to interfere, and the necessity of establishing between the profession and the public an arrangement dealing with the commercial aspect of the case. He thought the British Medical Association could, and ought to, take the lead, and might, if it chose, settle the difficulty. The commercial sense of the country would not ignore that there was a rightful claim for at least a minimum rate of remuneration. This minimum he thought might be fixed at 2*d*. per week per individual and 2*d*. extra for each visit at home. Medical charities that could not pay that rate should be reorganised on a better basis, and the Poor-law might also be called upon to pay this contract minimum rate. In a word, he demanded for the medical profession a living wage.

Dr. FREDERICK PEARSE likewise protested against the "sweating" of the profession. He said that most societies made their members pay 2*s*. to 4*s*. per member per annum, and he calculated that there was on an average one week's illness per member, necessitating three consultations, and each should be paid at the rate of 2*s*. 6*d*. Thus, 7*s*. 6*d*. per annum per member was something like a fair rate for contract work. Many friendly societies now wanted to give benefits to children under three years old. This caused a great increase of work. Further, there were female lodges, and women were accepted on the same terms as healthy males, though they required much more attention. Undoubtedly the growth of clubs and aid associations injured medical practice all over the country. The tendency of the age was to develop in all directions the spirit of association, and the grievance would become universal if energetic measures were not taken. In Portsmouth, fortunately, the medical profession had united. They felt they must combine, or they would become the slaves of other combinations. Dr. Pearse distributed among the Section a written formula of the pledge taken by the members of the Portsmouth Medical Union. It was worded as follows:—"We, the undersigned medical practitioners, practising in Portsmouth and the neighbourhood, hereby pledge one another that we will not take the office of medical officer to any friendly society vacated by the discharge or resignation of any medical practitioner in the district on account of his refusal to accept any additional burden or new conditions of his duties as medical officer."

Dr. W. R. RICE spoke energetically against those who gave gratuitous services to so-called charitable institutions, and qualified them as "traitors" to their profession. Voluntary hospitals were also often "a public scandal." The out-patient department was managed in a shameful manner. He knew of a dispensary where as many as a thousand bottles of medicine had been given out in a day. This was not serious medical treatment, and by crowding so many sick together the dispensary in question had been rightly qualified as a centre for the spread of disease. Yet this institution prides itself in being a model among such organisations. The profession must combine. It must check this system, which, by creating monopolies, engendered tyranny. The commercial evolution of to-day was disintegrating the medical profession. Medical men were flooding the market, and monopolists profited by this glut to convert medical men into wage slaves. A medical man was also employed as a lever to ensure the success of some general insurance business. He was a tool in the hands of a society. If he refused to lend himself to this he was called bad names, and described as a man who had no feeling for the suffering of the poor. However, at Coventry they had succeeded in getting six medical men to resign their positions on these societies. If the societies imported a foreigner, this was better than to have reputable men doing disreputable work. One difficulty was the fact that medical men were not, as a rule, good business men. They had founded, however, at Coventry a Public Medical Service Society, and eleven of the local practitioners had joined this movement. Their Society had for purpose to keep medical service under the control of medical men. They had now about 6000 members subscribing to their society, but no one was allowed to subscribe who earned more than £2 a week. They had further succeeded in checking the odious system of underselling by which medical men waged war against each other, and they now contemplated attacking the hospitals, which too often were merely places for "the evacuation of medical refuse," a remark which was greeted with laughter and cheers. The Section was equally pleased when Dr. Rice described the efforts of the medical profession as a whole to deal with the question before them that day as "nebulous, amorphous, anæmic, and uncertain."

Dr. HEMMING complained of the absence from the Section of young men; this was the more unfortunate as they were the most concerned in the question. He spoke of the antiquity of sick benefit funds, mentioning one society which was founded in 1750 and which had been recently killed by the reforming parson of the parish. But what was club practice about fifty years ago? The "very name stank," and clubmen were treated shamefully. He urged that it was first necessary to treat such patients well. By that means the profession would gain the public confidence and sympathy, and then their claims would meet with a more ready acceptance. Men who paid from 4*s*. to 7*s*. annually conceived that they had a right to be properly attended; and he thought that in the present day the medicine and care given were fairly good. He did not find it difficult to do contract work; indeed, it was easier than private practice among the same class of patients. Workmen were quite determined to manage their own affairs; it was only necessary to educate them ethically as well as they had been educated politically. He thought that where operations had to be performed an extra rate should be paid; and he believed that most working class organisations would make an extra allowance if the proposal were put to them straight as a question from man to man, of fair play between the working practitioner and the working artisan. On the other hand he was bitterly opposed to what were known as medical aid associations. In Devonshire they had begun to float such associations, but the medical men had written to one another and had managed to get rid of them.

Mr. GOSS, who followed, declared that club practice appeared better the further one got away from it. Elderly practitioners who no longer needed such work could best afford to talk about duty to the poor. Some good remedies had been suggested by the various speakers. Of course, organisation was the first of necessities; then mutual local pledges such as that taken by the practitioners at Portsmouth were likely to be very effective. He thought that as the State benefited by large families the State should aid such instead of leaving them to the charity of medical men. The latter, if they accepted contract work, should do it well, acquire a reputation for good work, and then claim a higher scale of remuneration.

Dr. ELLISTON, as surgeon to a country hospital, stated that they did their best to eliminate patients who could pay. Sick benefits were really a mathematical question. He believed they were unanimous in saying that private clubs and medical aid societies should be abolished. (Loud applause.) A county medical club, to which he belonged, excluded men who earned more than £1 a week or servants with more than £8 a year. The fee was 5*s*. for a man, 5*s*. for his wife, and a shilling each for children, up to the maximum of 15*s*. Of this, 1*s*. was deducted for managing expenses; and, as he had no trouble in collecting the money, he found this worked well.

Dr. NEWMAN maintained that each member should pay annually one week's earnings, which would be from 14*s*. to £1 in rural districts; and the labourers he had questioned on the subject had all agreed that this was a fair estimate. He urged that medical men in the service of medical aid societies should be requested to resign their membership of the British Medical Association.

Surgeon-Captain J. J. A. RAYE, who had been challenged as working for some of the accused benefit societies, protested that it was not fair to confound friendly societies with medical aid associations. He belonged to the Foresters and other similar benefit societies. They gave him a dispenser, all the drugs he required, a house to live in, and a fair

salary. He recognised that there was a grievance with regard to the admission of outside members, and against this he had always protested, notably at the dinners given by the Foresters and the Oddfellows. He had always preached the exclusion of those who were able to pay a medical man's bill, but he had no power to enforce such a rule; and on one occasion, when he was about to resign, he had ascertained that forty-two applications had been made by persons who, though holding the M.D. and the M.R.C.S. qualifications, were eager to get his post. He quite agreed to the establishment of a wage limit if it could be shown how this could be done. In answer to questions Surgeon-Captain Raye said that he did not receive the whole of the money that was paid by the members, but the society paid for his cabs, his house, his assistant, and his drugs. The secretary of the society was the only other paid official. Profits were set aside to meet years of epidemic. He had to attend to some 4000 persons. Some interruptions here occurred. One member present suggested that at a penny per week this would mean £800 a year, and asked whether as much as this was paid; while others protested that 4000 persons were more than any one man could attend. But Surgeon-Captain Raye held the meeting down to the question whether, if he resigned, they could guarantee that no one else would take his position, and this, perhaps, at even a smaller salary.

Mr. PHILIP LEE (Cork) then spoke, and related how his branch of the British Medical Association had been in the thick of the fight. They had to thank the Association for its help and sympathy. Their local branch had drawn up rules fixing the wage limit at £4 a week, which doubtless was too high. The Cork clubs had 4000 members and thirteen medical officers. If they calculated four in the family, this made a population of 16,000, and that was a very large proportion of the inhabitants of the town. Though these clubs represented every shade of religious and political opinion, and were constantly at war with each other, they united to fight the medical men, and the newspapers backed the clubs, denouncing the medical men as money-grubbers. It was galling to find that the clubs and the imported medical men were laughing at the British Medical Association as incapable of doing anything. They had subscribed among themselves £400 to fight the matter, and outside subscriptions had also been received. They were not fighting for money, but for principle, and they looked to the British Medical Association for assistance. No imported medical men should be admitted into the Association, and the members of the Association should refuse to enter into consultation with them.

Mr. GEORGE BROWN urged that the profession should form itself into union.

A Member urged that there should be a rent limit as well as a wage limit.

After some more remarks from Mr. DOYNE the debate concluded with the understanding that a resolution on the subject would be put at an ulterior meeting of the Section.

FRIDAY, AUG. 2ND.

The Section met again at King's College under the presidency of Dr. CLEVELAND; there were no set subjects for discussion, but certain resolutions were proposed.

The first resolution, proposed by the Chairman and seconded by Mr. GEORGE BROWN, was carried unanimously:—

"That the employment of unqualified assistants in visiting patients is injurious to the interests of the public as well as to those of the profession."

The second resolution was proposed by Mr. PHILIP LEE and seconded by Dr. MAJOR GREENWOOD:—

"That, in the opinion of this Section, any practitioner who wilfully violates generally received rules of professional ethics be not met in any professional intercourse whatever, save in a case of very urgent danger to an individual patient."

This was also carried unanimously.

The third resolution was proposed by Dr. G. W. POTTER and seconded by Dr. MAJOR GREENWOOD:—

"That advertising in any shape is highly derogatory to the profession, and that the Council be requested to use every effort to suppress it."

A good deal of discussion arose upon this as to who should be the deciding body to adjudicate upon the question of what does or does not constitute advertising, but eventually the resolution was agreed to.

The fourth resolution was the outcome of the discussion held on Thursday, Aug. 1st, about medical aid societies. It was moved by Dr. MAJOR GREENWOOD and seconded by Dr. J. BROWN (Bacup):—

"That the Council be requested to take steps to prevent members of the British Medical Association accepting posts in medical aid and kindred societies, and that, in the opinion of the Section, no practitioner who accepts office in any society of this kind ought to be eligible for membership of the Association; that medical aid societies be defined to be 'any lay association which endeavours to obtain pecuniary profit for its members solely out of the labour of salaried medical officers.'"

Dr. T. F. PEARSE moved and Mr. PHILIP LEE seconded:—

"That the Council be requested to open a fund to indemnify medical men in their contests against the action of friendly societies."

Dr. HENRY and Mr. BROADBENT (Manchester) moved a resolution to the effect:—

"That the Council be requested to communicate with the Universities and the medical corporations with a view to discouraging graduates from taking office under medical aid associations."

Mr. BOUSFIELD moved in a very clearly and well-put speech, and Mr. BROADBENT (Manchester) seconded, the following resolution:—

"That this meeting is unanimously of opinion that a suitable authority should have powers of control over irregular practices of the same kind as those exercised by the Incorporated Law Society and the Inns of Court, and urges the Council to approach the Government with a preference for this Association as the controlling body."

A very long resolution, proposed by Dr. MCNEE and seconded by Dr. K. SIBLEY, proposed that teachers and professors in medical schools should impress upon students and pupils the importance of *esprit de corps* and coöperation both as regards their own interests and those of their future patients.

Mr. NELSON HARDY and Dr. HUGH WOODS moved a resolution:—

"That members of the Association should not hold office in any hospital which is not really a public institution, and that members of the medical staff of hospitals having pay wards should not attend the inmates of such wards gratuitously."

The meeting terminated with a vote of thanks to the President.

CLINICO-PATHOLOGICAL MUSEUM.

[SECOND NOTICE.]

Last week we described the morbid anatomical specimens exhibited in this important collection, and it remains now to notice the bacteriological exhibits, the pictures, and the patients shown.

Compared with the bacteriological exhibition of last year at Bristol the present one is numerically inferior, but in point of originality this one takes the lead. Take, for instance, the Ringworm exhibit of Dr. Colcott Fox. Dr. Leslie Roberts read an interesting paper in the Dermatological Section on the Parasites of Ringworm, but the study of this subject has for the most part been delegated to foreign writers, especially French. It is, therefore, with much pleasure, for the honour of Great Britain, that we notice the admirable exhibit of photographs and cultures shown by Dr. Colcott Fox. This gentleman and Dr. Blaxall have examined 200 cases of ringworm and cultivated the many different organisms found in this disease, with a view to differentiate the various species. The inquiry is intricate owing to the difficulty of obtaining pure cultures, but the organisms which produce ringworm may be classified into: (1) Microsporon audouini, the common rebellious small-spored fungus found by them in 70 per cent. of the cases (as compared with 60 per cent. by French writers); and (2) tricophyton megalosporon, a large-spored fungus derived mostly from animal contagion. Of this there are a large number of different species, capable, however, of being grouped into two principal divisions—(*a*) endothrix (infiltrating the hair shaft), and (*b*) ectothrix (chiefly outside the hair, but sometimes making its way into the interior). Beautiful photo-micrographs and cultures on the various media were exhibited of these different species.

Dr. MONCKTON COPEMAN and Mr. KENT exhibited the results of their investigations into the bacteriology of vaccinia and variola. A beautifully stained microscopic specimen, labeled vaccinia, of a bacillus resembling tubercle and many other bacilli in appearance was shown, but we were informed by the exhibitor that when it is inoculated into calves it showed, after one or two removes, results indistinguishable from vaccinia as seen in that animal. When transferred to children from the calf the result is equally typical. The organism is small and stains with great difficulty, and it will not grow on ordinary culture media. The

difference or identity of this with the bacillus variolæ is still under investigation.

Dr. SIMS WOODHEAD exhibited a series of Diphtheria Cultures, showing a day's work at the laboratory of the Conjoint Board on behalf of the Metropolitan Asylums Board. Forty-one cases were examined on July 29th, and from thirty-six of these cultures of the coccus diphtheriæ were obtained on blood serum. Some of these were convalescent cases, which in pre-microbic days would have been regarded as free from infectiveness, but which, nevertheless, gave cultures showing that they were still infectious. The large number of 5143 cases have been so examined up to date. An excellent series of bacteria fixed with formic aldehyde for museum purposes are also exhibited.

Dr. MACFADYEN and Dr. HEWLETT, from the British Institute of Preventive Medicine, displayed: (1) A very complete series of cultures of chromogenic organisms, which are chiefly derived from water; (2) numerous examples of cultures of non-pathogenic saprophytic or putrefactive organisms, useful for differential purposes; (3) a set of cultures of pathogenic organisms, such as cholera, pyogenic microbes, tetanus, glanders, erysipelas, symptomatic anthrax, and actinomyces; (4) a series of thermophylic bacteria (a subject to which Dr. Macfadyen has devoted much attention)—i.e., microbes growing at a temperature of 140° to 150° F., which destroys protoplasm; these are chiefly saprophytic organisms derived from water, soil, hay, &c.; and (5) some excellent photomicrographs of gonococcus, the bacillus of tetanus, &c., by Mr. Barnard.

Mr. JOSEPH LUNT, from the water laboratory of the same institute, exhibited a series of water-borne organisms, amongst which may specially be noted a differential series of bacillus coli communis and the typhoid fever bacillus. These organisms are extremely alike in their physical properties though so different in their lethal powers. Both grow alike in form and colour, and both produce acid from sugar-agar; but the former produces gas at the bottom of a sugar-agar tube. Cultures of typhoid fever are also shown from bacteria after living in sterilised water for seventy-six days.

Dr. KLEIN showed a fine collection of bacteriological lantern slides, chiefly useful for educational purposes; and Dr. VINCENT HARRIS a series of bacteria infecting the alimentary tract. Among the apparatus shown was the Berkefeld filtration apparatus for deriving enzymes from bacterial fluids; various accessories for photo-micrographic work; and a new instrument for the cultivation of anaerobes (Professor D. J. Hamilton).

Turning next to the pictures, which were arranged around the museum, the most complete series is a collection of thirty-seven platinotype reproductions and five coloured sketches, illustrating the various stages of the epidemic skin disease described by Dr. Savill in 1891. They show well the successive stages of this protean and interesting disorder, how that it begins with a papular or papulo-erythematous rash and passes on in the course of four or more days to extensive shedding of the cuticle. The serious and sometimes fatal nature of the malady was well depicted, but the picture of a child who had a very mild and transitory attack was also shown. Photographs of cultures and of the microbes isolated by Savill and Russell in this disease were also shown, and some excellent photo-micrographs illustrating the histology and the peculiar and pathognomonic nuclear change discovered by Echeverria also find a place. This series is lent by the Royal College of Surgeons, and forms as complete a set of pictures illustrating one disease as could well be grouped together.

The great labour involved in arranging this museum in so short a time doubtless explains why the remaining pictures were not more definitely arranged and labeled. Mr. HUTCHINSON, from his rich store of illustrations, exhibited pictures of detached epiphyses and their results (a series tallying well with the preparations we referred to last week); tuberculosis of the skin resulting from inoculation of the phthisical sputum of one lad into the arm of another whom he was tattooing; lupus and other skin affections; and diseases of the bones. Pictures of many rare and interesting conditions adorned the tables, among which may be mentioned acute dermatitis, probably the result of chloralamide; Raynaud's disease, congenital syphilis, xeroderma pigmentosa, mycosis fungoides, various drug eruptions, and the various forms of lupus. Among the coloured sketches was one labeled "An unusual form of the lichen of childhood," sketched from a patient under the care of Mr. Morrant Baker, and bearing the date of 1882. The picture bears a very striking resemblance to the papulo-pustular (acneïform) eruption upon which Dr. Colcott Fox read a paper in the Dermatological Section, and which has also been described by Crocker under the name acne scrofulosorum, and Jamieson under the name of acne varioliforme.

Dr. THOMAS H. MORTON exhibited a series of lantern slides illustrating vaccinia, variola, and other morbid conditions.

In order to complete the provision for a veritable clinico-pathological exhibition it was arranged that patients should attend at 9.30 each morning for demonstration. We can only briefly notice these, though many were of considerable interest.

Mr. HUTCHINSON exhibited—(1) a classical case of universal molluscum fibrosum, photographs of which at different stages of this slow growing disease were displayed in the Museum; (2) a case of papular eruption described as prurigo-keloid, though after inspecting the hard, glossy, lichenoid papules it seemed to some to be a pity to use the word "keloid" in this connexion; (3) urticaria pigmentosa; (4) a rare form of lupus vulgaris; (5) symmetrical paralysis of the seventh pair of nerves, probably resulting from syphilitic otitis media; (6) unilateral hydrocystoma and unilateral sweating on the right side of the face following neuralgia of the fifth nerve on the same side; (7) acrocephalus (finger-tip sloughing) which occurred suddenly in connexion with a severe illness (drawings from three other patients suffering from the same condition were placed in the Museum; the curious feature of all the cases was their being unattended by Raynaud's phenomena, and only one (an elderly person) had any discoverable arterial disease); and (8) a case of recovery from leprosy.

Mr. EDGAR WILLETT exhibited—(1) a case of varicose aneurysm of the vessels of the right arm; and (2) a case of osteitis deformans in a woman aged forty-nine, affecting only the left tibia. The illness had only lasted two years. A specimen of a case affecting one bone (the radius) was placed in the Museum.

Mr. ALFRED WILLETT exhibited a case of ligature of the innominate, subclavian, and carotid arteries for subclavian aneurysm on the right side. The operation had been done in January, 1893.

Dr. PHINEAS ABRAHAM exhibited—(1) a case of lupus verrucosus of twelve years' growth affecting the left hand, the right hand having been affected five months ago; (2) a bromide eruption resembling a pustular syphilide, which started at the site of a bite only ten months before, although the patient had taken bromide for seven years; (3) a case of pemphigus which bore a strong resemblance to dermatitis herpetiformis (Dühring); (4) a case of pityriasis rubra pilaris (Devergie) in a little girl aged seven, lasting four months, and showing now the pale brown thickening of the skin distributed like gloves on the hands and feet; and (5) a remarkable pigmented nævus of the foot, supervening on varicose veins. The same patient exhibited leucoderma on the body and alopecia of the scalp.

Dr. F. R. WALTERS exhibited an interesting case of universal hypertrophic osteo-arthropathy of pulmonary origin in a man aged thirty-four. The hands were considerably enlarged, partly from osseous hypertrophy and partly from hypertrophy of the other tissues, and the edges and ends of a great number of the bones of the skeleton were lipped. The patient was the subject of pulmonary fibrosis, bronchitis, and emphysema, and a similar connexion between pulmonary disease and osteo-arthropathy had been traced in other cases. A paper on the affection was read by the exhibitor in the Pathological Section.

Space does not permit us to describe, or even to enumerate, all the wealth of material comprised in this storehouse of clinical and pathological objects, which, owing to its position and want of announcement, was well-nigh delegated to oblivion, but which, in our opinion, was one of the most interesting and instructive departments of the meeting of the British Medical Association, partly because the kind of knowledge was objective and not speculative, and partly because by careful selection and collection it brought into view all certain knowledge of recent date and much other interesting matter.

THE MUSEUM.

I.—DRUGS (*continued from p. 315*).

To the list of new and recent remedies described in the concluding paragraph of the article under the above heading in our last issue we may add: cocainæ phenas, which, acting as a local anæsthetic, has also the advantage of being antiseptic; duboisine sulphas, obtained from Duboisia Hopwoodii, like hyoscine, has been used as a sedative and hypnotic in mental disorders; formanilid, with the same uses as antipyrine, but less dangerous; ichthyol, as a suppository in prostatitis; magnesium sulphite, in tablet form, for the treatment of diphtheria; methyl chloride in cylinders for the purpose of spraying parts affected with neuralgia; methylene blue, used in diphtheria and as an injection in cancerous growths, and administered also with benefit, it is said, in malaria; oxychinaseptol, useful as a deodoriser in foul sores and discharges; salacetol, the salicylic acid of which is set free in the intestine, is employed in choleraic diarrhœa with castor oil; salipyrin, salophen, serviceable in painful nervous disorders, acting like and related to antipyrin; trional, already employed in post-epileptic delirium, and useful also in the night sweats of phthisis; and tropococain, a local anæsthetic for the eye. Messrs. Allen and Hanbury (Plough-court, E.C.) also supply a novelty in the shape of ozonising tubes for administering ozonised air as inhalation, or for ozonising the air of rooms or hospital wards. The results of trials with cases of pulmonary tuberculosis and anæmia claim some attention. A remarkable increase in the percentage of the oxyhæmoglobin appears to result upon this treatment. It is impossible to enumerate the lengthy list of "recent additions" brought to the notice of the visitors by Messrs. Burroughs, Wellcome, and Co. (Snow-hill, E.C.) on their admirably designed exhibit. Suffice it to mention some which comparatively recently have found favour in the list of remedies now largely prescribed. Emol-Keleet, for example, an interesting preparation which we have already noticed, is a remarkably fine mineral powder containing a high proportion of steatite, and has been found of excellent service as a dusting powder for inflamed and weeping surfaces. It is also well adapted as a diluent for antiseptics and as a tooth powder. The useful styptic, hazeline, is prepared in the convenient forms of "cream," "snow," and suppository. Amongst synthetic remedies were agathin, an effective anti-neuralgic and anti-rheumatic; alumnol (naphthol-sulphonate of aluminium), a new antiseptic possessing the important characteristic of precipitating albumen and gelatine, which, however, are soluble in excess; diaphtherin (oxychinaseptol), whilst powerfully antiseptic, is without the caustic and corrosive action of phenol or the toxic properties of oxychinoline; dermatol, an excellent and odourless substitute for iodoform; uretin, another substitute for iodoform, which is said not to cause eczematous action; phenolsalyl, a powerful antiseptic mixture, composed of benzoic, salicylic, and carbolic acids; and, lastly, Knoll's diuretin, as its name implies, a diuretic consisting of a compound of sodium theo-bromine with sodium salicylate. An excellent solvent and vehicle for eucalyptus, pinol, menthol, camphor, thymol, and salol, amongst other interesting products of this firm, is paroleine, a colourless fluid and tasteless oil obtained by the careful fractional distillation of petroleum.

"Standardised preparations" constitute some of the features on the stall of Messrs. Southall Bros. and Barclay (Birmingham). Thus the belladonna preparations, containing definite proportions of alkaloids, represent an important development in pharmacy, while convenience and advantages secured by the employment of their concentrated tinctures, which can be diluted with the official menstruum with the greatest ease to the required strength, are patent. Amongst these tinctures are aconite, arnica, belladonna, conium, gelsemium, and orange. A useful collection of materia medica specimens, herbaria, &c., of service to medical teachers, students, and others, comprised not the least interesting section of this firm's exhibit, which also included in regard to new remedies granular effervescing preparations of lysidine and the same new uric acid solvent (described as a crystalline but very hygroscopic base obtained from ethylene-diamine) contained in aerated distilled water. "Ergole" is one of the new pharmaceutical achievements of Messrs. Oppenheimer (Worship-street, E.C.), which is described as containing all the principles of ergot. It is to be used subcutaneously or per os, and is claimed to be free from irritation or from any tendency to excite nausea or gastric irritation. In the same category may be included other standard concentrated liquors of this firm, which possess the advantages of being miscible with water, highly concentrated, and admitting readily of the low melting soft and supple constituent parts of pure dilution to any required strength. There should be mentioned also Messrs. Oppenheimer's malt preparations, which, by their palatability and general excellence, have taken high rank, to which they are entitled, amongst dietetic aids. Adeps lanæ was one of the most important of the preparations arranged by Messrs. Thos. Christy and Co. (Lime-street, E.C.). It is a pure wool-fat, containing largely wool-fat. It absorbs nearly 300 per cent. of water if desired, and being free from free fatty acids does not become rancid. The interesting derivative of quinoline known as analgen, and used largely now as an analgesic and anti-neuralgic, was also shown here, as was likewise that peculiar decomposition product, ortho-æthoxy-ana-amido-quinoline, which at times occurring in the urine gives it a bloody appearance. That the colour is due, however, to a quinoline derivative, and not to what appears at first sight as an alarming symptom, has been satisfactorily demonstrated. Various extracts, kola preparations, tinctures, and trochisci, and many of Stearn's novel preparations, including wine of cod-liver oil, hæmoferrum pilloids, for which Messrs. Christy and Co. are London agents, were also placed for inspection at this stall. The preparations containing pumiline—the essential oil distilled from the needles of the snow-grown pine of the Alps—which Messrs. Stern exhibit are of well-known value in throat and lung affections, while a liniment and ointment containing the same oil is claimed to be useful for the relief of muscular rheumatism or in the treatment of sprains &c. "Zalone lozenges" contain, in addition, a small amount of thymol. Liquor calcis iodinatæ is described by Messrs. Willows, Francis, and Butler (100, High Holborn) as a compound of lime and iodine which is preferable for use to the preparations containing free iodine where an irritant effect is to be avoided. It is much more satisfactory than tincture of iodine, it is stated, for injection into the enlarged thyroid gland in goitre and into strumous glands or joints, and serves favourably as an application to swollen glands or joints. Ferratin, described as the ferruginous element of blood and a chemical combination of iron and an albumen derivative identical with that found naturally in food; lactophenin, a new antipyretic-like phenacetin, but possessing the advantage of a pronounced sedative effect; and liquor sedans (hydrastis, viburnum, piscidia), which has been successfully used in hyperæmia of the female reproductive system, are amongst the recently acquired and important pharmaceutical and medicinal preparations of Messrs. Parke, Davis, and Co. (North Audley-street).

Specimens of ferratin were also to be found in the really elegant and imposing collection of Messrs. Ferris and Co. of Bristol, and with them several comparatively new and important remedies, such as acidum cetraricum, a bitter principle from liverwort, and suggested as a substitute for quinine; airol, a gallate of bismuth, with iodine also in its composition, useful, it is said, for burns and chronic ulcers; apocodeine, not an emetic as originally supposed, acting beneficially as an expectorant, especially for children, being besides a hypnotic, and producing sleep, it is stated, without the excitement of morphia; argentamine, an aqueous solution of phosphate of silver; and ethylene-diamine, a microbicide, which does not precipitate with albumen or chlorides and is useful in glandular abscesses and as an injection in gonorrhœa; auri et arsenici bromidum, prepared as a comparatively new therapeutic agent in the treatment of epilepsy, hysteria, Bright's disease, having also been employed in the treatment of sclerosis, tuberculosis, &c.; bromalin (bromethyl formine), containing 32 per cent. bromine), offered as a safe substitute for the inorganic bromides; carpaine, an alkaloid from carica papaya, the physiological action of which is similar to digitalis, but can be injected without producing, it is said, local irritation; hæmol and hæmogallol, prepared from blood, and used in anæmia and blood impoverishment; hæmol mercuro-iodate, described as a new remedy for syphilis, containing 12 per cent. of mercury and 20 per cent. of iodine, in combination with "hæmol"; biniodide of mercury solution, excellent in parasitic diseases; myrrholine, an oleaginous solution of myrrh, which has been employed beneficially in laryngeal troubles of tuberculous origin;

naphtholate of sodium (microcidine), a compound of β-napthol and caustic soda, a powerful antiseptic, but feebly toxic; and, lastly, a petroleum emulsion of hypophosphites presenting many advantages. Subjects of our own analysis some time ago were the exhibits of Messrs. Salomon and Co. (Rainham, Essex)—viz., "purest chloroform" and "purest ether." We now learn that the purity of these products, as shown in our analyses, has since been confirmed by the excellent results of their employment in anæsthetic practice. In another place we have already pointed out the important and ingenious improvement which Messrs. Cooper and Co. (Gloucester-road, South Kensington) have effected in cachets; their sinapine tissue or mustard paper is an equally important advance. It is said not to blister the skin and is certainly clean and very neat, while its action is certain. The preparation known as liquor quininæ salicylatis of these pharmacists is also worthy of mention, since it is an elegant combination of quinine and salicylic acid, which has given excellent results in the treatment of chronic and atonic forms of gout and rheumatism. It has also been employed in migraine and trigeminal neuralgia, especially of dental origin, and as an antipyretic as well as tonic in influenza. A new use proposed for the tincture of adonis vernalis, prepared by Messrs. C. J. Hewlett and Son (Charlotte-street, E.C.), is to relieve obesity, while amongst new preparations made by this firm are alphol, which is decomposed by the pancreatic juice into salicylic acid and naphthol and gives relief in acute rheumatism, and cornutine, according to Kobert the active principle of ergot, which administered per os is said to be a safe method of exciting uterine contractions during parturition. In their list of improved pharmaceutical preparations this firm also include mist. hæmatoxyli co. conc. aromat, a successful combination, it is stated, for diarrhœa and dysentery.

Jeyes' Sanitary Compounds Co. (Cannon-street, E.C.) undertake the agency of some new remedies. Thus lysidine, the new solvent of uric acid, was discovered by the late Professor Hofmann in the products of distillation of ethylene-diamine. It possesses, it is said, five times the solvent power of piperazine and sixty times the solvent power of carbonate of lithium. Carnferine is described as an organic iron compound prepared from extract of meat, and contains 30 per cent. of iron. Three new iodine compounds—viz., nosophen, antinosine, and eudoxine—are said to be useful in certain diseases in effecting external and internal antisepsis. Migrainine (antipyrine, caffeine citrate) is considered to combine the physiological properties of both antipyrine and caffeine, and is accordingly employed with great benefit, it is stated, in migraine, headache, and kindred disorders. Lastly, symphorol is now comparatively well known as a diuretic producing increase of urinary secretion without secondary symptoms. Perhaps the most striking novelty of Messrs. Mackey, Mackey, and Co.'s (Grange-road, S.E.) exhibits were the "gelata," a name given to a series of elegant preparations having a clear and jelly-like consistence, intended for use as antiseptics and rubefacients in the treatment of skin diseases. The base is of a non-fatty character, is soluble in water, and easily absorbed and removed. The list includes boracic acid, carbolic acid, salicylic acid, camphor, chloroform, eucalyptus with or without carbolic acid, eucalyptus with coal tar or thymol, menthol, tar, and thymol. To this list we would suggest that biniodide of mercury dissolved in potassic iodide would be a useful addition, as a valuable application in certain diseases of the skin. The same firm's mistura bismuthi composita is well known as one of the best preparations of bismuth. The new preparations of cerium used as a specific for vomiting in pregnancy and other conditions, and as a nervine tonic, are also specially worthy of mention.

There were some excellent organic preparations on the stall of Messrs. Burgoyne, Burbidges, and Co. (Coleman-street, E.C.). Messrs. Arthur and Co. (Berners-street, W.) exhibited a good list of "new medicinal preparations made in accordance with suggestions and prescriptions of eminent members of the medical profession." Amongst these were a neutral, non-saccharine, non-astringent, and sterilised preparation of lime and iron, properties which indicate its value for children or patients with enfeebled digestive powers; a preparation of calcic chloride similarly devoid of objectionable properties; and the elegant gold compounds liq. auri brom. arsenatis, liq. auri brom. arsen. mercuratis, and liq. argenti arsenatis. The attractive exhibit of Mr. William Martindale, the excellence of whose pharmaceutical preparations are well known, bore striking evidence of the pace which the author of the "Extra-Pharmacopœia" might be expected to keep in accordance with modern developments. The gold preparations, a specially absorbent turf moss, the synthetic remedies, and nitroglycerine tablets, first introduced by this pharmacist in 1878, are worthy of mention. Improved Blaud's pills, called "iron jelloids," in which oxidation is prevented, were a noticeable feature of the exhibit of Messrs. Warwick Bros. (Old Swan-lane, S.E.), as was also "lactopeptine," a digestive powder containing lactic acid, hydrochloric acid, ptyalin, pepsin, and pancreatine, and prepared by Mr. J. M. Richards (Holborn-viaduct). Messrs. Read and Carnrick's new and interesting preparation, known as "peptenzyme," presenting, it is stated, in functional physiological activity all the digestive agents of the animal economy (stomach, pancreas, spleen, salivary and Brunner's glands, Lieberkuhn's follicles, and free nuclein), was exhibited amongst the products supplied by the Peptenzyme Company (Alfred-place-west, S.W.). The glands are extracted mechanically and without the use of acids and chemicals.

Besides the now well-known remedies exalgine (analgesic), diuretin-Knoll (diuretic), and papain (vegetable pepsin), Mr. Kühn (St. Mary-at-Hill, E.C.) showed tubes of ethyl chloride, now used largely to produce local anæsthesia and is also of value for the ready treatment of neuralgic pain. By simply unscrewing a cap a fine jet of the volatile liquid is expelled by the pressure of its own vapour within, and intense cold is produced by its evaporation upon the skin. For more extended operations a combination of ethyl and methyl chloride is very effective. Sublimated papers impregnated with definite quantities of mercuric chloride, since they are handy and useful for extemporising a powerful disinfectant fluid, should not be omitted from our notice. Messrs. Kuttnow and Co.'s (Holborn-viaduct) improved Carlsbad powder is now recognised as a valuable addition to natural aperient medicines, while the anti-asthmatic powder, made by the same firm, has since our last notice of it received abundant testimony of its effectiveness, as well as its harmlessness, in the treatment, as an inhalation, of asthma and bronchitis. It is a fragrant herb compound, but contains no lobelia or datura tatula, and may be smoked and the smoke conveniently inhaled in the form of cigarettes. In addition to the more or less new remedies—such, for example, as airol (iodoform substitute), gallobromol (a bromine preparation useful in blennorrhagia), thiol (a sulphuretted hydrocarbon oil suggested as a substitute for ichthyol), and thioform (another iodoform substitute), Messrs. Greeff & Co. (Eastcheap, E.C.) showed specimens of antivenomous serum taken from an ass or horse immunised against snake venom. Ten cubic centimetres for children and twenty cubic centimetres for adults are said to be sufficient as a prevention against the action of venom. It is supplied in phials, and its manufacture is supervised by Dr. Calmette, Directeur de l'Institut Pasteur de Lille (Nord). Mitchell's cold-drawn castor oil (the British Castor Oil Co., Victoria-street, S.W.) has already called forth our approbation, since it is as tasteless as castor oil can be, possessing a fine nutty flavour and increased therapeutic efficiency. Angiers petroleum emulsion with hypophosphites, again, has been critically examined in our laboratory, as the result of which we were able to report it as a specially refined oil of a purity consistent with its therapeutic requirements and containing the hypophosphites intact. Lastly, it is almost superfluous to add that the list of Messrs. Wyleys (Coventry) comprehended all the recent pharmacological advances, but amongst some of the several specialities shown we may mention the nasal bougies suggested by Dr. Richardson Rice for the treatment of hay fever, composed of cocaine, and those containing boracic acid or tannic acid for employment in ozæna and nasal polypi respectively; and the preparations of chekan used recently with good results in the treatment of phthisis. The pharmaceutical specialities, preparations, &c., and a series of medicaments were a feature of the exhibit of Messrs. Evans, Lescher, and Webb (Bartholomew-close, E.C.), while modern requisites were in evidence in the exhibit of Messrs. Francis Newbery and Sons (King Edward-street, E.C.). To these may be added the preparations of Messrs. Lorimer and Co. (Britannia-row, Islington, N.), comprising lacmagnesia, dermoplastin or eczema cream (boric acid, zinc, and bismuth), syr. hypophosph. co., ol. iodi, and ext. hamamelis dist.

(To be continued.)

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen having passed the necessary examinations, and having conformed to the by-laws and regulations, have been admitted Members of the College:—

Ashdowne, Wallace Charles George, L.R.C.P. Lond., St. Mary's Hospital.
Atkins, George Ernest, L.R.C.P. Lond., Firth College, Sheffield, and Queen's and General Hospitals, Birmingham.
Beadnell, Charles Marsh, L.R.C.P. Lond., Guy's Hospital.
Beddard, Arthur Philip, L.R.C.P. Lond., Cambridge University and Guy's Hospital.
Bekenn, George Henry Ernest, L.R.C.P. Lond., Mason College and Queen's and General Hospitals, Birmingham.
Belcher, James Arthur, L.R.C.P. Lond., University College Hospital.
Beven, Octavius, L.R.C.P. Lond., Durham University and Guy's Hospital.
Bill, John Francis, L.R.C.P. Lond., St. Bartholomew's Hospital.
Blachford, Jem, L.S.A. Lond., London Hospital.
Blake, Victor John, L.R.C.P. Lond., University College Hospital.
Breton, Moyle, L.R.C.P. Lond., St. George's Hospital.
Bridger, Sydney, L.R.C.P. Lond., University College Hospital.
Burnett, Leslie Burton, L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital.
Burns, William Thomas, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Byford, William Francis, L.R.C.P. Lond., Guy's Hospital.
Byrne, Peter Kevin, L.R.C.P. Lond., University College Hospital.
Caley, William Birch, L.S.A. Lond., University College and Royal Infirmary, Liverpool.
Carson, Herbert William, L.R.C.P. Lond., St. Bartholomew's Hospital.
Carter, Felix Bolton, L.R.C.P. Lond., University College, Hospital.
Cave, Francis William, L.R.C.P. Lond., University College and Royal Infirmary, Bristol.
Chapple, Robert Llewellyn, L.R.C.P. Lond., Yorkshire College and General Infirmary, Leeds, and St. Mary's Hospital.
Chater, John Samuel, L.R.C.P. Lond., St. Bartholomew's Hospital.
Chilcott, Edward Smith, L.R.C.P. Lond., St. Mary's Hospital.
Coleman, Ernest, L.R.C.P. Lond., Guy's Hospital.
Coleman, James Jordan, L.R.C.P. Lond., Guy's Hospital.
Cook, John Howard, L.R.C.P. Lond., University College Hospital.
Cooper, Thomas George Duncan, L.R.C.P. Lond., Queen's College and South Infirmary, Cork.
Crace-Calvert, George Alfred, L.R.C.P. Lond., St. Bartholomew's Hospital.
Cran, Robert David, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Cribb, Harry Gifford, L.R.C.P. Lond., Middlesex Hospital.
Davies, John Edgar Philip, L.R.C.P. Lond., St. Mary's Hospital.
Daw, William Henry, L.R.C.P. Lond., London Hospital.
Dawes, John Alphonsus, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester, and Westminster Hospital.
Dawney, Archibald Hugh Payan, L.R.C.P. Lond., University College and St. Thomas's Hospital.
Deas, Frank, L.R.C.P. Lond., University College Hospital.
Denne, Francis Vincent, L.R.C.P. Lond., Westminster Hospital.
Dimsey, Alfred, L.R.C.P. Lond., University College Hospital.
Duffield, Ernest Alphonse, L.R.C.P. Lond., University College and Royal Infirmary, Bristol, and Guy's Hospital.
Eedle, Edward John, L.R.C.P. Lond., Charing-cross Hospital.
Ellis, Robert Mackay, L.R.C.P. Lond., St. George's Hospital.
Erhardt, Conrad Charles James, L.R.C.P. Lond., King's College Hospital.
Evans, Arthur Henry, L.R.C.P. Lond., Westminster Hospital.
Falkener, Lyon, L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital.
Fryer, Ernest Henry, L.R.C.P. Lond., St. Bartholomew's Hospital.
Gabell, Douglas Phillimore, L.R.C.P. Lond., Charing-cross Hospital.
Gale, Frederick William, L.R.C.P. Lond., St. Bartholomomew's Hospital.
Gerrish, Daniel Smith, L.R.C.P. Lond., University College and Royal Infirmary, Bristol.
Gill, Sutton Dudley, L.R.C.P. Lond., Mason College, Queen's, and General Hospitals, Birmingham.
Gillett, Henry Tregellis, L.R.C.P. Lond., Oxford University and St. Bartholomew's Hospital.
Grant-Wilson, Charles Westbrooke, L.R.C.P. Lond., St. Thomas's Hospital.
Griffiths, John Alban Kendall, L.R.C.P. Lond., University College, London.
Guest, Herbert Merrick, L.R.C.P. Lond., Cambridge University and Mason College, Queen's and General Hospitals, Birmingham.
Haines, Edward, L.R.C.P. Lond., St. Thomas's Hospital.
Hall, John Noakes, L.R.C.P. Lond., St. Mary's Hospital.
Hall, Joseph Percy, L.R.C.P. Lond., Owen's College and Royal Infirmary, Manchester.
Harman, Nathaniel Bishop, L.R.C.P. Lond., Cambridge University and Middlesex Hospital.
Harnett, Charles John, L.R.C.P. Lond., Guy's Hospital.
Hawthorn, Frank, L.R.C.P. Lond., Durham University, Newcastle-upon-Tyne.
Herbert, William, L.R.C.P. Lond., St. Thomas's Hospital.
Hope, John Lamplugh Allen, L.R.C.P. Lond., St. Bartholomew's Hospital.
Hounsfield, Sydney Coupland, L.R.C.P. Lond., St. Bartholomew's Hospital.
Hutchinson, Frederick Arundel Stewart, L.R.C.P. Lond., Cambridge University and London Hospital.
Irving, William, L.R.C.P. Lond., Cambridge University and Middlesex Hospital.
Johnson, John Robert, L.R.C.P. Lond., University College and Royal Infirmary, Liverpool.
Johnson, Robert Macfie, L.R.C.P. Lond., University College Hospital.
Jones, Arthur Thomas, L.R.C.P. Lond., University College and Royal Infirmary, Liverpool.
Jones, David Lewis, L.R.C.P. Lond., St. Bartholomew's Hospital.
Jones, Edward Thomas, L.R.C.P. Lond., University College Hospital.
Jones, George Kimball, L.R.C.P. Lond., University College and Royal Infirmary, Liverpool, and London Hospital.
Jones, Murray Parry, L.R.C.P. Lond., Guy's Hospital.
Kenrick, William Hamilton, L.R.C.P. Lond., London Hospital.
Knocker, William Douglas, L.R.C.P. Lond., St. Thomas's Hospital.
Lamplough, Charles, L.R.C.P. Lond., Mason College, Queen's and General Hospitals, Birmingham, and St. Bartholomew's Hospital.
Lanphier, Charles William, L.R.C P. Lond., Charing-cross Hospital.
Lansdown, Gilbert Harry, L.R.C.P. Lond., King's College Hospital.
Mann, Fairman Rackham, L.R.C.P. Lond., Middlesex Hospital.
Mann, Frederick William Slingsby, L.R.C.P. Lond., University of Durham and Mason College, Queen's, and General Hospitals, Birmingham.
Maxwell, Ernest James, L.R.C.P. Lond., Cambridge University and Guy's Hospital.
Moreton, Reginald, L.R.C.P. Lond., St. Thomas's Hospital.
Morley, Frank, L.R.C.P. Lond., St. George's Hospital.
Morris, Charles Edward, L.R.C.P. Lond., University College and Royal Infirmary, Liverpool.
Mortimer, William Graddon, L.R.C.P. Lond., London Hospital.
Mulligan, Frederick William, L.R.C.P. Lond., Trinity College, Toronto, and University College Hospital.
Myler, John William, L.R.C.P. Lond., Middlesex Hospital.
Newbald, Clement Arthur, L.R.C.P. Lond., St. Bartholomew's Hospital.
Newton, Robert Earle, L.R.C.P. Lond., University of Glasgow.
Nicholson, John, L.R.C.P. Lond., Yorkshire College and General Infirmary, Leeds.
O'Hea, James Patrick, L.R.C.P. Lond., St. George's and St. Bartholomew's Hospitals.
Pentreath, Leonard Norbourne, L.R.C.P. Lond., St. Thomas's Hospital.
Philipps, Arthur Edward, L.R.C.P. Lond., Guy's Hospital.
Phillips, Francis Addison, L.R.C.P. Lond., St. George's Hospital.
Phillips, Henry Arthur, L.R.C.P. Lond., Yorkshire College and General Infirmary, Leeds.
Power, John Hugh, L.R.C.P. Lond., London Hospital.
Reynalds, George Frederick, L.R.C.P. Lond., St. Bartholomew's Hospital.
Riley, Francis, L.R.C.P. Lond., Westminster Hospital.
Robinson, Edwin William, L.R.C.P. Lond., Westminster Hospital.
Rodocanachi, Ambrose John, L.R.C.P. Lond., University College Hospital.
Rowland, Walter John, L.R.C.P. Lond., Durham University and Guy's Hospital.
Ryan, William Bonner, L.R.C.P. Lond., Charing-cross Hospital.
Sanders, Alfred William, L.R.C.P. Lond., St. Mary's Hospital.
Sayers, Matthew James Hazlitt, L.R.C.P. Lond., St. Thomas's Hospital.
Scot-Skirving, Archibald Adam, L.R.C.P. Lond., University of Edinburgh.
Scott, Herbert Ainslie, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Shaw, Harold Batty, L.R.C.P. Lond., University College Hospital.
Shepherd, Ernest, L.R.C.P. Lond., St. Mary's Hospital.
Sheppard, Arthur Murray, L.R.C.P. Lond., Sydney University and St. Bartholomew's Hospital.
Shorland, Ernest Trevor, L.R.C.P. Lond., Guy's Hospital.
Smallwood, Robert Percy, L.R.C.P. Lond., Cambridge University and St. Mary's Hospital.
Smith, Albert John, L.R.C.P. Lond., Westminster Hospital.
Southey, Herbert Watson, L.R.C.P. Lond., St. Bartholomew's Hospital.
Spain, Charles Milner, L.R.C.P. Lond., University College Hospital.
Spillane, James Charles, L.R.C.P. Lond., London Hospital.
Squire, Maurice Frederick, L.R.C.P. Lond., St. Mary's Hospital.
Steward, Francis James, L.R.C.P. Lond., Guy's Hospital.
Stoner, Harold Boniface, L.R.C.P. Lond., Guy's Hospital.
Talbot, Alfred George, L.R.C.P. Lond., Edinburgh University and Middlesex Hospital.
Tench, Sidney Edward, L.R.C.P. Lond., Middlesex Hospital.
Thomas, Evan, L.R.C.P. Lond., University College Hospital.
Thomas, Nevill Everard, L.R.C.P. Lond., Middlesex Hospital.
Thornely, William, L.R.C.P. Lond., Cambridge University and St. Thomas's Hospital.
Tonks, Arthur Edwin, L.R.C.P. Lond., Mason College, Queen's and General Hospitals, Birmingham.
Towne, Hugh Rose Forster, L.R.C.P. Lond., Westminster Hospital.
Turner, Alan Charles, L.R.C.P. Lond., Middlesex Hospital.
Turner, Thomas William, L.R.C.P. Lond., London Hospital.
Wallis, Sidney Seymour, L.R.C.P. Lond., Guy's Hospital.
Wasson, Charles Robert, L.R.C.P. Lond., St. George's Hospital.
Wheatley, Rupert, L.R.C.P. Lond., Middlesex Hospital.
White, Sidney Hugh, L.R.C.P. Lond., University College Hospital.
Wilkinson, Arthur Norris, L.R.C.P. Lond., Westminster Hospital.
Williams, Charles Wellingham, L.R.C.P. Lond., St. Bartholomew's Hospital.
Wilson, Francis Kenneth, L.R.C.P. Lond., Westminster Hospital.
Wise, Harry Mortimer, L.R.C.P. Lond., Guy's Hospital.
Woolley, Fred Duke, L.R.C.P. Lond., Owen's College and General Infirmary, Manchester.
Woolley, Jasper Maxwell, L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen having passed the necessary examinations, have been admitted by the two Colleges Diplomates in Public Health :—

Allen, Sydney Glenn (Surgeon-Captain, Army), M.R.C.S. Eng., L.R.C.P. Ed., St. Mary's Hospital.

Childs, Christopher, B.A., M.D. Oxon., L.R.C.P. Lond., M.R.C.S. Eng., St. George's Hospital, Oxford and Bonn Universities.

Chown, Francis, M.B. Lond., L.S.A. Lond., St. Mary's Hospital.

Fremlin, Heaver Stuart, L.R.C.P. Lond., M.R.C.S. Eng., Westminster Hospital.

Gepp, Maurice, L.R.C.P. & S. Edin., L.F.P. & S. Glasg., St. Bartholomew's Hospital.

Hopwood, Edgar Oswald, M.A. M.D. Oxon, University College, Owens College, and Royal Infirmary, Manchester.

Kerr, Daniel Oliver, M.B., C.M. Edin., Edinburgh University.

Larkam, Edward Thomas, L.R.C.P. Lond., M.R.C.S. Eng., Middlesex Hospital.

Lindow, Albert, M.R.C.S. Eng., L.S.A. Lond., King's College Hospital.

Norris, William Perrin, M.B. Melb., Melbourne University.

Pryn, William Wenmouth (Surgeon, Royal Navy), M.R.C.S. Eng., L.S.A. Lond., Guy's Hospital.

Shrubsall, William Wyatt, L.R.C.P. & S. Edin., L.F.P. & S. Glasg., Edinburgh and King's College Hospital.

Vallance, Hugh, M.R.C.S. Eng., London and Guy's Hospitals.

Wigmore, Arthur William, L.R.C.P. Lond., St. Mary's Hospital.

Williams, Arnold Winkelried, M.B. and C.M. Edin., Edinburgh University and London, King's College, and St. Thomas's Hospitals.

Eleven gentlemen were referred for six months.

ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF EDINBURGH AND FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At the July sittings of the examiners in Glasgow the following candidates passed the respective examinations, those marked with an asterisk (*) passing "with distinction" :—

First Examination (Five Years' Course).—*Richard Staward, Northfield; Alexander F. Jack, Glasgow; Richard J. Duff, Larne; Lionel R. Popham, Bantry; Alfred L. Johnston, Belper; *William Battersby, Glasgow; Alexander Macgregor, Glasgow; Anne Mercer Watson, Edinburgh; Thomas D. Bird, Woodford; George D. Bateman, Cork; Robert Stewart, Hamilton; George F. Stoney, Tipperary; William Jordan, Cork; Duncan M. Macgregor, Oban; Robert T. Edwards, Nantile; David S. Russell, Glasgow; Harry J. White, Dublin; Daniel J. O'Connor, Millstreet; Patrick Coffey, Ballinahinch; Wm. A. Benson, Stanley, Durham; William J. Verling, Staffordshire; David B. Greer, Antrim; Ernest Hill, Cork; George W. Hibbert, Bradford; Robert W. Jubb, Lowestoft; Thomas R. Hunter, Sheffield; James Moran, Limerick; John T. K. Thomson, Glasgow; James Dunlop, Glasgow; and C. F. Van Dijk, Cape Colony.

First Examination (Four Years' Course).—Paul J. F. O'Sullivan, Cork; Frederick P. G. Laslett, Milford Haven; Alexander L. Brown, Tranent; Lawson S. Shennan, Houghton-le-Spring; Charles H. Harris, Staffordshire; James H. Stuart, County Antrim; William Rankin, Kilsyth; and John James Scanlan, Cork.

Second Examination (Five Years' Course).—Evelyn S. Milestone, Whitby; *Harold Chaffer, Todmorden; *Hedda Alström, Sweden; Claudia A. P. Rowse, London; Samuel V. Robinson, Ulverston; E. F. Lionel de Jersey, Guernsey; William W. Dickie, Glasgow; Ivan A. Jackson, and Burton-on-Trent.

Second Examination (Four Years' Course).—Alex. G. Hays, West Bromwich; Rowland E. Moriarty, Tralee; Percival Bayley, Northampton; Douglas M. Burnside, Belfast; Hugh Joseph Fern, Glasgow; Rose Turner, Essex; Edwin J. Ling, Scarborough; John A. Burns, Newry; John Crowley, Cork; George H. Williams, Scarborough; Edmond Walsh, Limerick; Thomas Heaps, Preston; John Danagher, Co. Limerick; Michael Sheehy, Co. Cork; Stanley H. Oulten, Liverpool; William B. Thomas, Glasgow; and Cyrus Retallack, Australia.

Third Examination (Five Years' Course).—Hugh Macpherson, Oban; Alexander Ross, Glasgow; and Duncan M'Gregor, Aberfoyle.

Final Examination.—John Graham, Workington; George C. Murray, Birnam; Lily M. Yardley, London; May Hannah Harris, London; Alfred Greenwood, Woodley, Stockport; Ella C. Rawlinson, Aylsham; Richard S. Martin, Great Lever, Bolton; William L. Brown, Glasgow; Edmund Barker, Glasgow; Charlotte Adams, Gilford, County Down; Thomas Thompson, Ballymoney; William James Stitt, Newry; Forbes H. Wolfe, Glasgow; David Walker, Glasgow; Alfred H. Peters, Wallsend; Frederick S. Flint, London; Arthur A. Bradburne, Salop; John W. Cuthbertson, Roath, Cardiff; Bhudhardas B. Vora, India; John M. Tighe, Dublin; Richard O. Mather, Wigan; George Bryce, Coatbridge; Matthew A. Macfarlane, Ontario, Canada; Janet M'Intyre Kay, Edinburgh; Augustus K. A. Cæsar, Cheshire; William W. Ridley, Gateshead-on-Tyne; Frederick E. Richardson, Edinburgh; and Martha Maud Stewart, Newry.

SUPERANNUATION ALLOWANCE.—Mr. Herbert Chabot, M.R.C.S., late resident medical officer of the Camberwell Infirmary, has been granted a superannuation allowance of £200 per annum.

PRESENTATIONS.—Dr. John Meredith of Wellington, Somerset, has been presented with a tastefully designed épergne by the members of the local classes in connexion with the St. John Ambulance Association.—On the occasion of the Mayor of the Borough of Reading publicly distributing at the Town Hall on the 1st inst. the certificates of the St. John Ambulance Association, for efficiency in rendering first aid to the successful members of the Borough Ambulance Classes, he presented, on behalf of the classes, Dr. George H. R. Holden with a handsome silver inkstand for his appreciated instruction on "first aid."—The pupils attending the ambulance classes in connexion with Bolton Infirmary have presented Dr. Johnston (teacher of the female class) and Dr. Mothersole (teacher of the male class), honorary surgeons to the infirmary, with a handsome surgical bag and a fully-equipped secretaire respectively. The presentations were made by the ex-Mayor, Alderman Nicholson, J.P.

FOREIGN UNIVERSITY INTELLIGENCE.—*Basle :* Dr. F. Egger has been recognised as *privat-docent* in Medicine. Dr. F. Miescher, Professor of Physiology, being obliged to retire on account of the state of his health, Dr. R. Metzner of Freiberg (Baden) has been appointed to the chair.—*Breslau :* Dr. Buchwald has been granted the title of Professor.—*Geneva :* Dr. H. Audeoud has been recognised as *privat-docent* in Pediatrics, Dr. Bétrix as *privat-docent* in Gynæcology, and Dr. E. Goetz as *privat-docent* in Surgery.—*Gratz :* Dr. Karl Nicoladoni of Innsbrück has been appointed Principal Surgeon in the Surgical Clinic.—*Munich :* Dr. Hahn has been recognised as *privat-docent* in Hygiene.—*Pisa :* Dr. Terni has been recognised as *privat-docent* in Hygiene.—*Tübingen :* Dr. Froriep has been appointed Professor of Anatomy, in succession to Dr. von Henke, who has resigned.—*Zürich :* Dr. H. Von Wyss has been appointed Extraordinary Professor of Forensic Medicine and Toxicology.

SHEFFIELD ROYAL HOSPITAL.—The annual meeting of the Governors of the Sheffield Royal Hospital was held on the premises on July 31st, the Rev. H. H. Wright presiding. The secretary read the sixty-third annual report, which mentioned that the first portion of the new hospital had been opened, and that the financial position of the institution had greatly improved. The appeal sent out by the president (the Duke of Norfolk) since the last annual meeting had resulted in a sum of over £30,000 being either promised or received for the new building fund. Their Royal Highnesses the Duke and Duchess of York had graciously opened the new wing and laid the foundation-stone of future additions, and Her Majesty the Queen had been pleased to command that the institution should in future be known as the Sheffield Royal Hospital. During the year just ended there had been an increase of 333 in the patients, and an increase of £329 in the annual subscriptions, but the total income fell short of the expenditure by £395, and a large sum still had to be raised in order to cover the cost of building. The Duke of Norfolk was re-elected president, and Sir Frederick Mappin, M.P., and Sir Henry Stephenson vice-presidents.

THE POLICE SURGEONS' ASSOCIATION.—The annual meeting was held at King's College on July 30th, Mr. T. Bond being in the chair. A report from the council was read by Mr. Hopkins (hon. sec.), referring principally to the deputation to the Home Secretary in the early part of the year and its results. A vote of thanks to Mr. Asquith for his courtesy in receiving the deputation and for carrying out some of its recommendations before leaving the Home Office was unanimously adopted. The following officers and council were elected for the ensuing year :—President: Sir H. D. Littlejohn, M.D. Vice-Presidents: T. Holmes, F.R.C.S., and T. Bond, F.R.C.S. Treasurer: H. Nelson Hardy, F.R.C.S. Edin. Hon. Secs.: F. W. Lowndes, M.R.C.S. (Liverpool), and H. C. Hopkins, M.R.C.S. (Bath). Council: J. R. Baumgartner, M.R.C.S. (Newcastle), J. Paul Bush, M.R.C.S. (Bristol), G. Harrison, M.R.C.S. (Chester), W. O. Heslop, F.R.C.S. Edin. (Manchester), E. K. Houchin, L.R.C.P. (London), H. W. Roberts, M.R.C.S. (London), D. McDonnell, M.D. (Belfast), W. G. Lowe, M.D. (Burton-on-Trent), L. Maybury, M.D. (Southsea), W. M. Roocroft, L.R.C.P. (Wigan), C. Templeman, M.D. (Dundee), and S. Wolferstan, L.R.C.P. (Plymouth).

BEQUESTS AND DONATIONS TO HOSPITALS.—The Worshipful Grocers' Company has contributed £100 each to the Metropolitan Convalescent Institution (office: Sackville-street, W.) and the Queen Charlotte's Lying-in Hospital, Marylebone.—The Mercers' Livery Company has voted £52 10*s.* to the Queen Charlotte's Lying-in Hospital, Marylebone.—The late Mr. A. Montefiore Sebag-Montefiore of London has bequeathed £100 to the London Hospital, £50 each to St. Mary's Hospital and the Jews' Hospital and Orphan Asylum, and £25 to the Jewish Convalescent Home.

BOOKS ETC. RECEIVED.

ALCAN, FÉLIX, Paris.

Œuvres de Léon le Fort. Tome I. Par le Dr. Félix-Lejars. 1895. pp. 931.

Contribution à l'Étude de l'Atrophie Musculaire Progressive, Type Duchenne-Aran. Par Dr. J. B. Charcot. 1895. pp. 159.

Assistance, Traitement, et Éducation des Enfants Idiots et Dégénérés. Par Bourneville. IV. 1895.

AMERICAN MEDICAL ASSOCIATION PRESS, Chicago.

Original Investigations on the Natural History (Symptoms and Pathology) of Yellow Fever. 1854-1894. By Joseph Jones, M.D., LL.D. Reprint, 1894. Pp. 311.

BAILLIÈRE, J. B., ET FILS, Paris.

Traité de Chirurgie Clinique et Opératoire. Par A. le Dentu et P. Delbet. Tome premier. Illustrated. 1896. pp. 823.

CASSELL & COMPANY, London.

The Practitioner: a Journal of Practical Medicine. Edited by Malcolm Morris. Jan.-June. 1895. pp. 592.

HIRSCHWALD, AUGUST, Berlin.

Diagnostik der Krankheiten der Bauchorgane. Von Dr. Hans Leo. 1895. pp. 513.

Encyklopädie der Therapie. Von Oscar Liebreich. 1. Band. 1. Abtheilung. 1895.

LEA BROTHERS & CO., Philadelphia.

System of Surgery. Edited by F. S. Dennis, M.D., assisted by John S. Billings, M.D. Vol. II. Illustrated. 1895. pp. 928.

LEWIS, H. K., Gower-street, London.

Medical Electricity: A Practical Handbook for Students and Practitioners. By H. Lewis Jones, M.A., M.D. Being the second edition on "Medical Electricity." By W. E. Steavenson, M.D., and H. L. Jones, M.D. Illustrated. 1895. pp. 474. Price 10*s.* 6*d.*

LONGMANS, GREEN, & CO., London.

Quain's Elements of Anatomy. Edited by E. A. Schäfer, F.R.S., and Geo. D. Thane. In Three Vols. Vol. III. Part 2: The Nerves. Illustrated. Tenth Edition. 1896. Price 9*s.*

Gunshot Injuries: their History, Characteristic Features, Complications, and General Treatment. By Surgeon-General Sir T. Longmore. Second Edition. 1895. Illustrated. Price 31*s.* 6*d.*

MACMILLAN & CO., London.

The Climates and Baths of Great Britain. Being the Report of a Committee of the Royal Medical and Chirurgical Society of London. Vol. I. 1895. pp. 640. Price 21*s.* net.

The Practice of Massage: its Physiological Effects and Therapeutic Uses. By A. Symons Eccles, M.B. Aberd. 1895. pp. 377. Price 7*s.* 6*d.* net.

A Text-book of the Principles of Physics. By A. Daniell, LL.B., D.Sc., F.R.S.E. Third edition, seventh thousand. 1896. pp. 782. Price 21*s.*

PENTLAND, YOUNG J., Edinburgh.

Edinburgh Hospital Reports. Edited by G. A. Gibson, M.D., D.Sc., and others. Illustrated. Vol. III. 1895. pp. 700.

Atlas of the Diseases of the Skin. By H. Radcliffe Crocker, M.D., F.R.C.P. Fasciculus XI. Price 21*s.* net.

SAMPSON LOW, MARSTON, & CO., Fetter-lane, Fleet-street, London.

The Guide to South Africa. Edited by A. S. Brown and G. Gordon Brown for the Castle Mail Packets Company, London. 1895. With coloured maps. pp. 354. Price 2*s.* 6*d.*

SMITH, ROBERT, & CO., State Printers, Lansing, U.S.

Twenty-seventh Annual Report relating to the Registry and Return of Births, Marriages, and Deaths in Michigan for the year 1893. By the Secretary of State of the State of Michigan. 1895. pp. 274.

SOCIÉTÉ D'ÉDITIONS SCIENTIFIQUES, Paris.

Traitement de l'Avortement. Par Dr. Moïse Misrach. 1896. pp. 272.

TOWER PUBLISHING COMPANY Mincries, London.

A Torquay Marriage. By G. R Vicars and Edith Vicars. Second Edition. pp. 331. 1896.

WRIGHT, JOHN, & Co., Bristol.

Herbal Simples: Approved for Modern Uses of Cure. By W. T. Fernie, M.D. 1895. pp. 432. Price 5*s.*

Transactions of the Obstetrical Society of London; Vol. XXXVII., for the year 1895, Part 2, for March, April, and May (published by the Society, 20, Hanover-square, London, W.); price 5*s.*—The Johns Hopkins Hospital Reports: Report in Gynæcology, III.; vol. iv., Nos. 7 and 8 (The Johns Hopkins Press, Baltimore; 1895).—Educational Handwork: adapted for Teachers and Pupils in Rural Districts; by Dr. Woldemar Götze (O. Newmann & Co., Newman-street, London, W.); price 1*s.*—Magazines for August: Boy's Own Paper; Girl's Own Paper; Leisure Hour; Sunday at Home; Pall Mall Magazine; The Picture Magazine; English Illustrated Magazine; Hearth and Home; Our Bubble: a Coloured Magazine for Boys and Girls; London; Home; The Strand.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

ATKINSON, J. P., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Northern Sanitary District of the Lancaster Union.

BEVEN, OCTAVIUS, M.R.C.S. Eng., and L.R.C.P. Lond., has been appointed House Surgeon to the Children's Hospital, Nottingham.

BOOTH, R. L., M.B., C.M. Edin., has been appointed Assistant Medical Officer by the Camberwell Guardians.

BROWN, GEO. A., M.R.C.S., has been appointed Medical Officer for the Workhouse, and Tredegar Sanitary District of the Bedwellty Union.

BRAND, A. T., M.D. and C.M., has been appointed a Certifying Factory Surgeon for the District of Driffield, East Yorks, vice P. Burgess, deceased.

BULLOCH, WILLIAM, M.D. Aberd., has been appointed Assistant Bacteriologist in the Antitoxin department of the British Institute of Preventive Medicine.

BURRELL, L., M.D. St. And., M.R.C.S., has been appointed House Surgeon to the Suffolk General Hospital, vice Master, resigned.

CAMPBELL, H. JOHNSTONE, London, has been appointed Hon. Physician to the Bradford Infirmary vice Grabham, resigned,

CARDALE, HENRY J., M.B., C.M. Edin., has been appointed Assistant House Surgeon to the Royal Albert Hospital, Devonport, vice T. Olver, resigned.

CHEETHAM, FRANCIS, L.R.C.P., L.M. Edin., has been appointed Public Vaccinator for Beulah, Victoria, Australia, vice Dickens, resigned.

DAKEYNE, J. E., L.R.C.P., L.M. Edin., M.R.C.S., has been reappointed Medical Officer for the Leek Rural Sanitary District of the Leek Union.

FLETCHER, T. J., M.B., C.M. Edin., M.R.C.S., has been appointed Medical Officer for the Castle Donington Sanitary District of the Shardlow Union.

GROVE, W. R., M.D. St. And., M.R.C.S., has been appointed Medical Officer for the Workhouse of the St. Ives Union.

HOLMES, F., M.R.C.S., has been appointed Vaccination Officer for the Wortley Union.

JAMESON, JAS. S., M.D. Dubl., B.S., has been appointed Medical Officer for the Ardleigh and Great Bromley and Wise Sanitary District.

KINGDON, WILFRED R., M.B. Durh., has been appointed House Surgeon to the Stoke Newington Dispensary, London, N.

LEYS, JOHN, M.B., C.M. Aberd., has been reappointed Medical Officer for the Norton Sanitary District of the Leek Union.

MARMION, H., L.R.C.P., L.M., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Assistant Medical Officer to the Poplar Union.

MCCOULL, STANLEY, M.B., B.S. Durh., has been appointed Medica Officer for the Tenth Sanitary District of the Hexham Union.

MCGEE, WM., L.K.Q.C.P., L.M., L.R.C.S. Irel., has been appointed Public Vaccinator for Korumburra, Victoria, Australia, vice Mackenzie.

MORTON, S. ERNEST, M.R.C.S., L.R.C.P., has been appointed Senior House Surgeon to the Sheffield General Infirmary, vice Kerr, resigned.

NEECH, JAS. THOS., L.R.C.P. Edin., D.S.Sc. Vict., has been appointed Physician to, and Medical Superintendent of, the Fever Hospital of the Leigh Joint Hospital Board.

ORTON, JOHN, M.R.C.S., has been reappointed Medical Officer of Health for the Foleshill Rural Sanitary District.

REYNOLDS, J. J., L.R.C.P. Lond., has been appointed Medical Officer for the Cheriton Fitzpaine Sanitary District of the Crediton Union.

PARSON, WILLIAM, M.R.C.S., has been reappointed Medical Officer for the Godalming Sanitary District of the Guildford Union.

SMYTH, JOSHUA C., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Wells Rural Sanitary District, vice Livett, resigned.

TAYLOR, A. E., M.B., C.M. Edin., L.R.C.P., L.R.C.S., L.F.P.S. Glasg., has been appointed Medical Officer for the Gillingham Sanitary District of the Hartismere Union.

THOMAS, PHILIP M., M.D. Cleveland, L.S.A., has been appointed Medical Officer for the Conwil-Elvet Sanitary District of the Carmarthen Union, vice Edwards, resigned.

TRATMAN, WALLINGTON W., L.S.A., has been appointed Medical Officer for the newly-formed Bushbury District of the Cannock Union.

WHICHELLS, EDMUND, B.A., M.B., B.C. Cantab., has been appointed Assistant House Surgeon to the Infirmary, Huddersfield, vice Coates, resigned.

WILLIAMS, D. L., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Crowland Sanitary District of the Peterborough Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BOROUGH OF BOOTLE HOSPITAL FOR INFECTIOUS DISEASES.—Medical Superintendent, unmarried. Salary £100 per annum, with board, washing, and apartments at the hospital. Applications to the Town Clerk.

CONVALESCENT FEVER HOSPITAL, Gore Farm, Darenth, Kent.—Dispenser. Salary, £5 a month, with board, lodging, and washing. Applications to the Medical Superintendent at the hospital.

CUMBERLAND INFIRMARY, Carlisle.—House Surgeon, for one year. Salary, £70 per annum, with board, lodging, and washing.

EAST SUFFOLK AND IPSWICH HOSPITAL, Ipswich.—Second House Surgeon, unmarried. Salary £70 per annum, with board, lodging, and washing.

GLAMORGAN COUNTY ASYLUM, near Brigend.—Junior Assistant Medical Officer. Salary £130, rising £10 a year to £150, if approved, with with board (no beer or wine), lodging, and washing.

JAFFRAY SURBURBAN BRANCH OF THE GENERAL HOSPITAL, Gravelly-hill, near Birmingham.—Resident Medical and Surgical Officer. Salary £150 per annum, with board, residence, and washing.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Honorary Assistant Physician.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant for one year. Salary £120 for first year, and £150 afterwards.

NEWCASTLE-UPON-TYNE UNION.—Resident Assistant Medical Officer at the workhouse, unmarried. Salary £100 per annum, with furnished apartments, rations, and washing. Applications to the Clerk to the Guardians, Union Offices, Newcastle-upon-Tyne.

PARISH COUNCIL OF NORTHMAVINE, Shetland.—Medical Officer. Salary £40. Applications to the Clerk, Parish Council, Northmavine.

PARISH OF LAMBETH.—Assistant Medical Officer and Dispenser for the Infirmary in Brook-street, Kennington. Salary £125 a year, with board, furnished apartments, and washing. Applications to the Clerk, Guardians' Boardroom and Offices, Brook-street, Kennington-road, S.E.

SALISBURY INFIRMARY.—House Surgeon. unmarried. Salary £100 per annum, with board, lodging, and washing.

SCHOOL BOARD FOR LONDON.—Medical Officer for the Training Ship *Shaftesbury*, which lies off Grays, Essex. Commencing salary £100 a year, which may be increased by annual increments of £10 to £150 a year. Applications to the Clerk to the Managers, School Board Offices, Victoria Embankment, W.C.

TEIGNMOUTH INFIRMARY, DISPENSARY, AND CONVALESCENT HOME.—House Surgeon (to act also as Secretary), to Visit and Dispense. Salary £60, with board, rooms, and washing.

Births, Marriages, and Deaths.

BIRTHS.

ARMSTEAD.—On July 30th, at Chepstow-villas, W., the wife of Hugh Wells Armstead, M.D., of a daughter.

BARKER.—On Aug. 1st, at Harley-street, Cavendish-square, W., the wife of Arthur E. Barker, F.R.C.S., of a son.

BEALE.—On Aug. 4th, at Grosvenor-street, W., the wife of Peyton T. B. Beale, F.R.C.S., of a son.

CADMAN.—On Aug. 1st, at Devonshire-street, Portland-place, the wife of A. W. Cadman, F.R.C.S., of a daughter.

CAMERON.—On Aug. 3rd, the wife of W. Sinclair Cameron, Gray's Inn-road, of a son.

CLARKE.—On Aug. 4th, at Horsmans-place, Dartford, the wife of Thoma Furze Clarke, M.R.C.S. Eng., &c., of a daughter.

DAVIES.—On July 31st, at Camberwell-green, the wife of Frederick Henry Davies, M.B. Edin., of a daughter. prematurely.

GOODALL.—On July 31st, at Homerton, the wife of E. W. Goodall, M.D., of a son.

HARPER.—On Aug. 4th, at Rosary-gardens, South Kensington, the wife of James Harper, M.D., of a daughter.

JACOBSEN.—On Aug. 3rd, at St. David's-street, Presteign, Radnorshire, the wife of G. Oscar Jacobsen, M.R.C.S., L.R.C.P., of a daughter.

KIDD.—On July 31st, at Enniskillen, the wife of L. Kidd, M.D. Irel., of a daughter.

KROHN.—On Aug. 6th. the wife of Ronald E. S. Krohn, M.D., of Queen's-crescent, Haverstock-hill, of a son.

LEWIS.—On July 30th, at Hamilton-terrace, N.W., the wife of E. J. Lewis, M.B., F.R.C.S., of a daughter.

MURPHY.—On Aug. 4th, at the Barons, Twickenham, the wife of Dr. H. Howard Murphy, of a daughter.

PARSONS.—On July 30th, at 3, College Villas, Finchley, N., the wife of J. Herbert Parsons, M.B., B.Sc., M.R.C.S., L.R.C.P., of a son.

PENROSE.—On Aug. 6th, at Wimbledon, the wife of F. G. Penrose, M.D., F.R.C.P., of 4, Harley-street, of a daughter.

ROGERS.—On Aug. 5th. at York-place, Clifton, Bristol, the wife of Bertram Mitford H. Rogers, M.D., of a daughter.

STRUTHERS.—On Aug. 2nd, at Edric-road, New Cross, the wife of the late James Struthers, M.D. Aberd., of a son.

THOMPSTONE.—On July 31st, at Marsh-parade, Newcastle-under-Lyme, the wife of Sydney W. Thompstone, F.R.C.S. Edin., District Medical Officer, H.M.'s Niger Coast Protectorate, West Africa, of a son.

WARREN.—On Aug. 2nd, at Hameville, Headcorn, Kent, the wife of P. Somerville Warren, L.R.C.P., L.R.C.S. Edin., of a daughter.

WHITTINGDALE.—On Aug. 2nd, at Brecon House, Sherborne, Dorset, the wife of J. F. L. Whittingdale, B.A., M.B. Cantab., of a daughter.

MARRIAGES.

FERGUSON—SMITH.—On Aug. 1st, at St. Paul's, Addlestone, Ralph Saunderson Ferguson, M.B. Edin., eldest son of Frank Ferguson of Gateshead, to Francis Madeleine, only surviving daughter of the late Edwin Smith, formerly of the War Office.

MAC VICKER—CHURCHILL.—On July 31st, at the Parish Church, Wembdon, Somerset, Charles George Mac Vicker, B.A., M.B. Irel., of Isleham, Cambs., to Marian, eldest daughter of the Rev. E. B. C. Churchill, Vicar of Ashmansworth, Hants.

MILTON—MOSELEY.—On Aug. 6th, at the Parish Church, Richmond, Surrey, by the Revd. R. Moseley, M.A., Chaplain to the Forces, brother of the bride, assisted by the Rev. E. Bellamy, B.A., Francis Ralph Septimus, M.R.C.S., L.R.C.P., seventh son of the late Sir John Milton, K.C.B., to Constance, youngest daughter of J. S. Moseley of Richmond, Surrey, formerly of Hatherton, Staffordshire. No cards.

STEPHENSON—PECK.—On July 31st, at the Parish Church, Wigan, by the Rev. John Stephenson, M.A., Vicar of Boston, and the Rev. Gerard Finch, M.A., Honorary Fellow of Queen's College, Cambs., Sydney Stephenson, M.B. (of Welbeck-street, W.), only son of Appleby Stephenson, M.D. (of Nottingham), to Jane Finch, daughter of the late J. H. Peck, Esq., J.P., of Southport and of Mrs. Peck, Gidlow Lodge, Wigan.

DEATHS.

ELWIN.—On Aug. 5th, at the Medical Superintendent's House, Infirmary, East Dulwich, Ruth Elwin, only child of Herbert Elwin and Edith Harris, aged 1 year 9 months.

FALLON.—On July 7th, at 77, Northcote-road, Wandsworth-common, S.W., Robert Tucker Fallon, L.R.C.S. and L.R.C.P. Edin., L.F.P.S. Glasg., of intestinal obstruction, aged 43 years.

GREENLY.—On Aug. 4th, at his residence, Brondesbury-villas, Kilburn, N.W., Charles Hickes Greenly, M.R.C.S., aged 91.

NUTT.—On Aug. 2nd, at Brooklyn House, Sherborne, Dorset, the Rev Horace Young Nutt, B.A. Oxon, late Assistant Master at Liverpool College, son of Horace Nutt, M.R.C.S. Sherborne, and grandson of the late Rev. William Young Nutt, Rector of Cold Overton, Leicestershire.

REESE.—On July 21st, at Ystradgynlais, John Thomas Reese, L.F.P.S. Glas., struck by lightning when out visiting a patient. Aged 51 years.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

"THE LANCET" AND ACCIDENT INSURANCE.

A LITHOGRAPHED CIRCULAR LETTER, emanating from an office in the Strand district, is being sent to members of the medical profession, offering to supply them with THE LANCET, in conjunction with an accident insurance policy. The Proprietors of THE LANCET are in no way connected with the scheme (of which they cannot approve), and were not aware of its inception until their attention was called to it by a reader who had received the circular.

A NEW APPOINTMENT AT THE MIDDLESEX HOSPITAL.

WE notice in the columns of a lay contemporary an announcement of a new appointment at the Middlesex Hospital. Our contemporary then proceeds to give sundry personal details which, though highly creditable to the gentleman to whom they refer, should not, in our opinion, be inserted except in a professional journal. At the same time we feel certain that the paragraph in question was inserted without the knowledge or leave of the subject of it. Truly no profession suffers so much as ours from the mistaken kindness of would-be friends.

Anceps.—The condition being a *symptom*, there are numberless reliable works bearing upon it, for its history is the history of the parent disease. There is very little to be said about the condition on a separate entity, and most of the books treating of it in this manner are to be distinctly distrusted.

"THE FIRST NUMBER OF 'THE LANCET.'"

To the Editors of THE LANCET.

SIRS,—The letter of "Historical" in your issue of the 27th ult. raises a very interesting point, and one which I have taken not a little trouble to correctly ascertain for myself. I have not had the advantage of reading what Mr. Clarke, in his "Autobiographical Recollections," has to say on the subject; but doubtless his statement that the first number of THE LANCET was issued without a cover is entitled to be received with the greatest respect, looking to his lengthy official connexion with THE LANCET. I have a copy dated July 25th, 1829, which has a white cover, and I have been *told* (on what I consider good authority) that a cover was issued with the first number. Of course, it is a very difficult point to be settled at this distance of time; but if any of your readers could throw any light on the point it would be most interesting.

I might also add that very few copies of the original first number are now in existence. Even the British Museum is deficient in this respect. The original first number consisted of thirty-six pages. Pages 1 and 2 were occupied by the Preface; pages 3, 4, 5, 6, 7, 8, and 9 by Sir Astley Cooper's Surgical Lecture; pages 10, 11, 12, and 13 by articles on Politics, Enlightened Liverymen, Dr. Collyer, and the Drama; pages 14 to 28 by Medical and Surgical Intelligence; page 29 by Medical Extracts; pages 30 to 32 by Compositions of Quack Medicines and Table Talk; pages 33, 34, and 35, by an article on Southey the Laureate; and page 36 by Notices to Correspondents.

Many persons are under the impression that they possess complete copies of the original issues of THE LANCET; but my experience is that very few indeed have the originals of the first two volumes.

I am, Sirs, yours faithfully,

Aug. 6th, 1895. ANTIQUARY.

SMALL-POX IN THE STRAND.

THE following startling story appeared in an evening paper last week. "On Wednesday afternoon," writes a correspondent to the *Globe*, "I was walking along the Strand with a friend, who is a medical practitioner, when, seeing a man coming towards us, he remarked, 'That is a case of small-pox.' We stopped the man, who was rather shabbily dressed, and, after some conversation, ascertained that he had only been released from gaol that morning. The medical man examined him, and found that he was suffering from the disease, the case being a typical one. The man was shocked to learn this, and after some consideration it was decided that my friend should remain in charge of the patient while I went for a constable to see what could be done. On seeing an officer and relating the facts to him, he remarked, 'I cannot act, Sir, unless you are willing to give the man in charge.' The sufferer was quite agreeable, and although the doctor had an important engagement at the time he thought it better, in the interests of the public, not to fulfil it rather than to allow the man to remain in the streets. We, therefore, accompanied him to Bow-street. We told an inspector our business, but he refused to have anything to do with the case, saying, 'We do not want any small-pox here; you must take the man to Charing-cross Hospital.' I argued a little with him, but it was no use. The man was taken to the hospital by order of the inspector, but was not admitted. He was then sent to the Strand Union, where he was examined by a medical officer, who confirmed the view that he was suffering from small-pox. My friend received a police telegram the same night stating that the patient had been conveyed to an infirmary, and would be removed later to the small-pox hospital." It is, of course, well-known to all medical men in London that the Police do not know the working of the machinery which exists for dealing with such cases. The recommendation of the Bow-street inspector, unless it was founded upon disbelief of the diagnosis, reveals this patently.

Typhus.—British Medical Benevolent Fund (Mr. Edward East, Secretary, 16, Upper Berkeley-street, Portman-square); Royal Medical Benevolent College, Epsom (Mr. J. B. Lamb, Secretary, 37, Soho-square, W.); Society for the Relief of Widows and Orphans of Medical Men (Mr. J. B. Blackett, Secretary, 20, Hanover-square, W.); THE LANCET Relief Fund (Mr. E. Davies, Secretary, THE LANCET Office, 423, Strand, W.C.).

C. C. B. T.—Our correspondent has done all that lies in his power. The editor of the paper in question will probably make some explanation or correction where necessary.

A FUTURE COLLEAGUE.

To the Editors of THE LANCET.

SIRS,—May I ask your advice on the following case:—A. B. was some ten years ago convicted of forging the Matriculation certificate of a University, and was imprisoned for eight months. Since then he has kept a druggist's and chemist's shop, and has managed to pass all the examinations necessary for a medical diploma except the final. A petition has been sent to the local medical society signed by some registered medical men residing near A. B.'s shop, stating that he is about to undergo examination for the diploma of a certain licensing body; that he is not a fit person to become a member of an honourable profession; and that he has been carrying on an extensive unqualified practice for some time (of which no proof is offered except the fact that A. B. was censured severely by the coroner on one occasion for having attended a child which subsequently died without having been seen by a registered medical practitioner). The petitioners also pray the society to take steps to prevent A. B. getting his qualification. We are anxious to avoid making any false step that might lead the society into difficulties, and we would be greatly obliged if you will tell us what course could be safely taken, either by the society or by one or more of the petitioners.

I remain, Sirs, yours truly,

July 28th, 1895. HON. SECRETARY.

*** If the allegations against "A. B." can be proved to complete demonstration, it is clear that he is an undesirable person for an honourable profession; but the local medical society cannot prevent him from becoming qualified if he can pass the examinations. Nor can the General Medical Council do anything before he is a registered practitioner, as he is not within their jurisdiction. It would seem to us that at present nothing can be done. The facts might be laid by individuals to whom they are known, and certainly *not* by the society, before the body which is believed to be going to license "A. B.," and that body might consider him a wrongful person to admit to the examination; but that would be a very extreme step to take.—ED. L.

PRACTICE IN SOUTH AMERICA AND IN ALGERIA.

To the Editors of THE LANCET.

SIRS,—Will any of your readers kindly tell me where I can find detailed information as to the conditions under which English medical men can practise in the Republics of South America and in the French colony of Algeria?

I am, Sirs, faithfully yours,

Aug. 1st, 1895. S.

SERO-THERAPY IN DIPHTHERIA.

N. N.—For those who are in doubt as to the efficacy of this treatment Dr. Roux' *ipsissima verba* are these:—"Le sérum peut occasionner des éruptions passagères: il ne tue pas. Agissez même dans le doute. S'il s'agit d'un vrai cas d'angine diphthérique, le résultat sera presque toujours la guérison. S'il s'agit d'une angine simple, la santé n'en sera jamais compromise."

B.A., M.D.—We have recommended a form of long-term temporary assurance under which the premium would be considerably less than for a whole-term policy, but uniform while the policy continued in existence. More advantageous terms may be obtained when the premiums vary from year to year in accordance with the calculated risks, but, having in our mind more than one prospectus that has been brought to our knowledge, we can only impress on our correspondent the necessity of understanding the form clearly before assuring. In our issues of April 23rd, 1892, and Sept. 10th, 1892, we have published short notes upon the different companies, but for our correspondent's purpose any first-class company would surely serve.

"THE TITLE OF 'DR.'"

To the Editors of THE LANCET.

SIRS,—It is highly amusing to one living across the sea to read the remarks in THE LANCET about titles. One would imagine some of these correspondents had very little practice—they spend so much time in discussing the title of "Dr." Your correspondent "Verax" has written a very personal letter, "Dubitator" evidently being a brother practitioner of whom he is jealous. He says: "As if anybody thought of comparing the M.D. of Aberdeen with that obtained at the University of London," &c. As an old Aberdeen man let me tell "Verax" that, so far as practical knowledge of the profession is concerned and ability to treat disease, the M.D. (Aberdeen) is quite as good as the M.D. (Lond.). The M.D. (Lond.) gets a more scientific education, but does not make a better practitioner. The late head of the profession in London, Sir Andrew Clark, the late Sir James Clark, and the late Sir John Forbes were graduates of the Northern University which "Verax" affects to despise. "Verax" displays great ignorance in saying that the M.D. could be got by "simply purchasing a return ticket, availing themselves of a northern train," and I refer him to the Students' Number of THE LANCET for the past twenty years, and I hope he will have sufficient manliness to acknowledge his errors and apologise. In my time Aberdeen possessed some surgeons of undoubted talent, Messrs Pirrie and Keith being the leaders. These two surgeons were very kind to students, often taking them to private operations. The first time I saw Dr. Pirrie "cut for stone" was in a house in Crown-street, Aberdeen, where an Australian student and myself assisted him. Knowing, therefore, a great deal about the Aberdeen school, I felt I could not allow an individual who evidently "did not know what he was talking about" to traduce my old *alma mater*. I have no idea of the identity of "Verax," but if a patient I should be sorry to place myself under the care of a medical man who would make such uncalled-for statements. Practising as I have been for many years in a Greater Britain, where all legally qualified men are styled "Doctors," and justly so, it seems to me childish to have such unseemly squabbles over a name. I have always believed that every man who has passed a satisfactory examination should be called "Doctor."

I am, Sirs, yours truly,

July 10th, 1895. M.D.

J. E. T.—There is only one institution where the sons of medical men receive educational advantages over and above other boys; but our correspondent's son is too old to make it worth while applying there. The curriculum of any good local grammar school should, with application on the student's part, make the passing of the examinations mentioned a certainty; and there are many schools in England where the tuition fees are very low—so many, in fact, that it is unnecessary to single out one or two by name. Other circumstances might be allowed to dictate choice of residence.

A QUESTION OF ETHICS.

To the Editors of THE LANCET.

SIRS,—During the absence of a neighbour I attended at the delivery (only) of one of his patients. The lady now calls upon me requesting my attendance at her second confinement. After explaining that I cannot because I attended for her regular medical man, she tells me she will not have him again, and presses me to undertake the case. What should one do under such circumstances?

I am, Sirs, yours truly,

Aug. 8th, 1895. ETHICS.

*** These questions cannot be decided quite offhand, and often there are circumstances which prevent any direct answer being possible. If "Ethics" is clear that he has in no way unfairly supplanted his neighbour, there can be no reason why he should not take the case. We mean that there would be nothing dishonourable in doing so, though we can quite understand that it would be highly repugnant to him, as it would be, we are glad to believe, to most of the profession. Would it not be possible for him to see his neighbour and talk the matter over amicably? For sensible men the attitude of the patient would be seen to mean nothing offensive.—ED. L.

THE PROBLEMS OF CHILD-SAVING IN NEW YORK CITY.

THE Secretary of the Children's Aid Society in New York reports that the Society has twenty-one day schools and twelve night schools, with a daily average attendance of 6200 children. These schools are given by private munificence, and are supported partly from the public funds and the balance by donations from charitable people, and cost the Society 130,000 dollars during the year to maintain. The children are taught such manual work as they are fitted for—such as cooking, household work, sewing, paper folding, drawing, modelling, and wood working. Only those children are allowed to attend who are so poor, ragged, and neglected that they cannot go to the public schools, or where there is no room for them in the public schools. This work has been in operation for forty years. More than 100,000 children have been started aright in life from the schools of the Society. The "placing out" system, with its corps of trained, experienced and careful agents, finds good homes in the country for these homeless ones. Forty thousand young and middle-aged men and women are now living honest, prosperous lives in Western and Southern States, who would otherwise have remained to drift about New York.

Mr. H. Cuthbert.—The donation to the Townshend Fund has been received and forwarded.

"SANITAS" IN EMPYEMA.

To the Editors of THE LANCET.

SIRS,—I shall be much obliged if any of your readers can give me some information with regard to the use of "Sanitas" for washing out old empyema cavities. I am, Sirs, yours faithfully,

Newcastle-upon-Tyne, Aug. 4th, 1895. HENRY S. BAUMGARTNER.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Aug. 8th, 1895.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Aug. 2	29·71	S.W.	60	59	111	73	58	...	Raining
,, 3	29·57	S.W.	60	57	107	64	56	0·10	Cloudy
,, 4	29·39	N.W.	54	56	120	71	54	0·42	Cloudy
,, 5	29·50	W.	61	56	109	68	51	0·14	Bright
,, 6	29·43	N.W.	61	57	105	69	57	0·03	Overcast
,, 7	29·76	N.W.	61	57	110	70	53	0·22	Cloudy
,, 8	29·85	W.	60	56	113	73	53	0·07	Hazy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (1 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynecological, by Physicians. 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (Gynecological), 2.30 P.M.

TUESDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1.30 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY.—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.).

THURSDAY.—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (2 P.M.), Soho-square (2 P.M.), North West London (2 P.M.).

FRIDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.).

SATURDAY.—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

During the week marked copies of the following newspapers have been received:—*Kettering Guardian, Blackburn Daily Telegraph, Financial News, Birmingham Gazette, Yorkshire Herald, Derby Daily Telegraph, Hereford Times, Manchester Guardian, Rochdale Observer, Leicester Post, Express and Star (Wolverhampton), City Press, Liverpool Mercury, Dublin Evening Telegraph, Leamington Spa Courier, Newcastle Leader, Dundee Courier, Western Press, Pioneer Mail, Builder, Times of India, Brighton Gazette, Bolton Evening News, Sunderland Daily Echo, The Journal (Carmarthen), Sunday World (Dublin), Leigh Burghs Pilot, Cork Constitution, Provincial Medical Journal, The County Gentleman United Service Gazette, School Board Chronicle, Speaker, Weekly Mail (Cardiff), Birmingham Daily Gazette, Social Gazette, Citizen, Kentish Press, &c., &c.*

Communications, Letters &c. have been received from—

A.—Dr. J. W. Allan, Glasgow; Anderson's College Medical School, Dean of; Assistancy, Lond.

B.—Dr. W. A. Buée, Slough; Mons. N. E. Blount, Paris; Mr. T. B. Browne, Lond.; Messrs. Burgoyne and Co., Lond.; Messrs. Bowater and Sons, Lond.; Messrs. Blondeau et Cie., Lond.; Messrs. Benger and Rumpff, Lond.; Birmingham General Hospital, House Governor of; British Medical Temperance Association, Lond.; *Birmingham Daily Post*, Publisher of; British Institute of Public Health, Hon. Secretary of; British Medical Association, Lond.; Borough of Leicester, Town Clerk of.

C.—Prof. M. Charteris, Glasgow; Dr. G. Carré, Lond.; Dr. W. J. Collins, Lond.; Dr. I. Cadell, Edinburgh; Dr. D. J. Collins, Cork; Mr. H. Cuthbert, Aston-on-Clun; Mr. A. C. Champati, Patna City, India; Miss Cannings, Lond.; Cortland Wagon Co., Lond.

D.—Dr. W. Duncan, Lond.; Dr. G. Dickson, Edinburgh; Dr. M. Dewar, Edinburgh; Dr. W. H. Douglas, Stourbridge; Darlington Hospital and Dispensary, Secretary of.

E.—Dr. W. Easby, Peterborough; Mr. E. C. Evans, Southsea.

F.—Dr. A. H. Frere, Wickham Market; Mr. W. Falla, Jersey; Mr. N. Hay Forbes, Tunbridge Wells; Mr. T. W. Fowler, Coventry; F.R.C.S.

G.—Dr. H. S. Grant, Navarre, Ohio, U.S.A.; Dr. H. L. Gill, Berlin; Mr. J. Gibson, Newcastle-on-Tyne; Messrs. Gills, Cuxson, and Co., Wednesbury; Great Eastern Railway Co., Manager of; Glamorgan County Asylum, Bridgend, Superintendent of.

H.—Dr. Herman, Lond.; Dr. W. D. Halliburton, Lond.; Dr. M. M. Hagopian, Arapkin, Turkey; Dr. C. Holman, Lond.; Surg.-Capt. M. P. Holt, Lond.; Mr. O. L. Holst, Eastbourne; Mr. J. Heywood, Manchester; Mr. N. Hardy, Lond.

I.—Institut de Anatomie, Buarrescl.

J.—Sir Geo. Johnson, Lond.; Mr. W. Jago, Brighton; Mr. T. Jones, Manchester.

K.—Dr. G. C. Kingsbury, Blackpool; Mr. J. L. King, Topoka, Kansas, U.S.A.; Mr. A. Kidd, Croydon.

L.—Dr. L. Leith, Edinburgh; Messrs. Lee and Nightingale, Liverpool; Liquor Carnis Co., Aston Clinton.

M.—Dr. H. Macnaughton-Jones, Lond.; Dr. H. R. McCullough, Ontario; Mr. J. J. Merriman, Worthing; Dr. J. Murphy, Lond.; Messrs. Macmillan and Co., Lond.; Messrs. Maxton and Co., Lond.; Messrs. T. L. May and Co., Lond.; Manchester Hospital for Consumption, Secretary of; Middlesex Hospital, Superintendent of; Maltine Manufacturing Co., Lond.; M.A., London.

N.—Mr. H. Nutt, Sherborne; National Society for the Employment of Epileptics, Lond.

O.—Mr. E. Owen, Lond.; Mr. J. O'Brien, Swanlinbar; Messrs. Oppenheimer, Son, and Co., Lond.

P.—Dr. Purcell, Lond.; Mr. G. Pearson, Nottingham; Mr. N. Porritt, Huddersfield; Messrs. Palpy and Co., Lond.; Plumbers, the Worshipful Company of, Lond.; Pennsylvania Medical Society, Secretary of.

R.—Dr. R. D. Rudolf, Sarun, India; Dr. W. Richardson Rice, Coventry; Mr. L. Roberts, Llandudno; Mr. R. Redpath, Newcastle-on-Tyne; Mr. H. M. Riley, Leicester; Messrs. E. Roe and Co., Salisbury; Royal Institution of Great Britain, Lond., Secretary of; Ramus, Lond.; Registration £5 5s.; R. S. O., Lond.

S.—Dr. E. J. Smyth, Birmingham; Dr. R. Sturgis-White, Lincoln; Dr. H. D. Stepanian, Rodosto, Turkey; Mr. A. Stenhouse, Glasgow; Mr. J. M. Sloan, Lond.; Messrs. W. H. Smith and Son, Lond.; Messrs. Shield and Kyd, Dundee; Messrs. J. T. Syer and Co., Lond.; Messrs. S. Smith and Co., Bow; Messrs. G. and G. Stern, Lond.; Messrs. G. Street and Co., Lond.; Messrs. Street Bros., Lond.; Sanitary Institute, Lond., Secretary of; Sanitas Co., Lond.; *Science Siftings*, Lond., Editor of; Servant, an Old, Glastonbury; S., Lond.

T.—Dr. H. E. Taylor, Aylesford; Dr. W. B. Tate, Nottingham; Mr. L. Tait, Birmingham; Mr. R. Turnbull, Lond.; Mr. J. Thin, Edinburgh; Mr. R. Tilbury, Andover.

U.—University College, Dundee, Secretary of.

V.—Universal Sanitary Disinfecting Co., Lond.

W.—Dr. A. J. Wall, Lond.; Dr. F. J. Waldo, Lond.; Mr. C. E. Watson, Twyford; Mr. G. B. White, Enniskillen; Mr. R. M. West, Leicester; Mr. J. W. White, Kingsbridge; Messrs. W. Wood and Co., New York.

X.—X., Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. H. A. R. Alexander, Oakley, Fifeshire; Messrs. Armour and Co., Lond.; Apollinaris Co., Secretary of; A. M. R., Lond.; Austral, Lond.; Alpha, Lond.

B.—Dr. T. S. Brodie, Houston; Mr. G. S. Buck, Eaton Socon; Mr. W. Bridgeford, Hastings; Mr. G. de V. Belson, Bampton; Mr. R. M. Bourne, Richmond; Mons. M. Berthier, Paris; Mr. H. C. Bevan, Blaina; Messrs. Barclay and Sons, Lond.; Birmingham General Hospital, Secretary of; Bury Dispensary Hospital, Secretary of.

C.—Dr. Cressy, Croydon; Mr. J. Carter, Lond.; Mr. W. B. Caley, Sheffield; Mr. J. N. Cregeen, Liverpool; Mr. W. S. Cameron, Lond.; Rev. W. Cleveland, Selby; C. R. B. A., Edinburgh.

D.—Mr. A. H. Dawes, Lond.; Mr. O. J. Davies, Lydbrook; Mr. A. E. Downey, Rathdrum; Devonian, Lond.; Delta, Lond.

E.—Dr. J. B. Emmerson, Biggleswade; Mrs. E. Evans, Lond.; Messrs. Eason and Son, Dublin; Eplis, Lond.; E. D. G. S., Lond.

F.—Faris, Reading.

G.—Dr. G. C. Garratt, Enstone; Dr. E. G. Gilbert, Tunbridge Wells; Mr. F. W. Gale, Weymouth; Mr. A. Greenwood, Woodley; General Apothecaries' Co., Lond.

H.—Dr. Hughes, Lond.; Dr. H. E. Harris, Lond.; Dr. Hutchinson, Kingston; Dr. P. H. Hensley, Jersey; Brig.-Surg.-Lieut.-Col. Harrison, Lond.; Mr. H. R. Hancock, Loughborough; Mr. H. Hutchinson, Kingston; Mr. T. S. Hope, Northleach; Mr. W. A. Hardiker, Wrexham; Mr. J. L. Hamilton, Brighton; Messrs. Haddon and Co., Lond.; H. S., Newcastle-on-Tyne.

I.—Messrs. Ingram and Royle' Lond.

J.—Mr. E. C. Johnston, Cheltenham; Mr. H. T. Jackson, Londonderry; James, Lond.; J. H., Lond.

K.—Mr. V. R. Kirloskar, Jamkhandi, India; K., Lond.

L.—Dr. Laidlaw, Baldock; Dr. T. Laird, Heywood; Mr. R. M. Lenard, Lond.; Mr. G. Lane, Stromness, Orkney; Locum, Lond.; Locum, Aberystwith; Dr. L., Liverpool.

M.—Dr. R. McLang, Carlisle; Mr. T. Milton, Richmond; Mr. J. Menzies, Worksop; Mr. D. F. Morgan, Foynes; Macclesfield General Infirmary, Secretary of; M. D., London; Medicine, Barrow-in-Furness; Medicus, Leytonstone; M.B., London.

N.—Mr. E. J. Nugent, Lond.; Newcastle-on-Tyne Dispensary, Secretary of; North Staffordshire Infirmary, Stoke-on-Trent, Secretary of; Nemo, Lond.

O.—Oenus, Lond.

P.—Dr. H. A. Perkins, Tunbridge Wells; Dr. F. G. Penrose, Lond.; Mr. J. W. Pinder, Lond.; Pepsin, Lond.

R.—Dr. L. Roberts, Llandudno; Mr. C. D. Roe, Lond.; Mr. H. R. Reynolds, Lond.; Miss M. Reese, Swansea Valley; Ramus, Lond.; R. S. O., Lond.

S.—Dr. J. Smith, Mauchline, N.B.; Mr. F. Searle, Shoreham; Mr. A. Snowdon, Yarmouth; Mr. C. F. Sutton, Holmes Chapel; Springfield House Asylum, Bedford; Scalpel, Lond.; Surgeon, Bridlington Quay.

T.—Dr. A. Thomas, Blakeney; Dr. G. M. E. Thorp, Demerara; Mr. J. Thin, Edinburgh; Messrs. Twyfords, Hanley; Teignmouth Infirmary, House Surgeon of; Tibia, Lond.

U.—University of Glasgow, Dean of.

V.—Victoria, Medical Society of, Hon. Treasurer of; Vigo, Lond.; Verax, Lond.

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